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Military Career Paths

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UNITED STATES OF AMERICA

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Military Career Paths

Career Progression Patterns for Selected Occupations from the *Military Career Guide*

A companion document, *Military Career Guide*, is available for a description of the full range of occupations available in the military.

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Acknowledgments

Military Career Paths was developed in response to requests from guidance professionals nationwide for information about career progression in the military. It presents descriptions of typical career development patterns over a 20-year period for a sample of enlisted and officer occupations. *Military Career Paths* was designed to complement the *Military Career Guide*, a publication that describes the full range of occupations in the U.S. Armed Services at the journeyworker level. *Military Career Paths* is intended to provide a general description of the military's career development process. While designed for use as a separate resource, *Military Career Paths* also can be used in conjunction with the *Military Career Guide*.

Policy oversight for the development of *Military Career Paths* was provided by a steering committee. Members of the group included Dr. W. S. Sellman and Dr. Anita Lancaster, Office of the Assistant Secretary of Defense (Force Management & Personnel); Colonel James Jewel, Headquarters, Department of the Army; Dr. Daniel Stabile, Naval Military Personnel Command; Lieutenant Colonel Thomas Copeland, Headquarters, U.S. Air Force; Dr. Douglas Davis, Headquarters, U.S. Marine Corps; Mr. Kenneth Scheflen, Defense Manpower Data Center; and Mrs. Juliette Lester, National Occupational Information Coordinating Committee. Their efforts on behalf of this project are appreciated.

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How to Read the Career Descriptions

The purpose of *Military Career Paths* is to explain military career opportunities to students, counselors, and parents. It can be used to explore enlisted and officer careers in the Army, Navy, Air Force, Marine Corps, and Coast Guard. *Military Career Paths* describes the typical duties and assignments for a person advancing along the path of a military career. In total, 25 enlisted and 13 officer occupations are described in *Military Career Paths*. Each career description has standard sections as shown in the example below.

When reading any one of the 38 career descriptions, remember that it is a summary of career paths in similar job specialties across two or more military services. Individual career paths may differ somewhat from the general descriptions in this book. If you are interested in learning more about a particular service or occupation, you should contact a recruiter for details.

Career Title

The career title names the military occupation.

Photograph

One or more photographs illustrate the occupational duties performed.

Profile

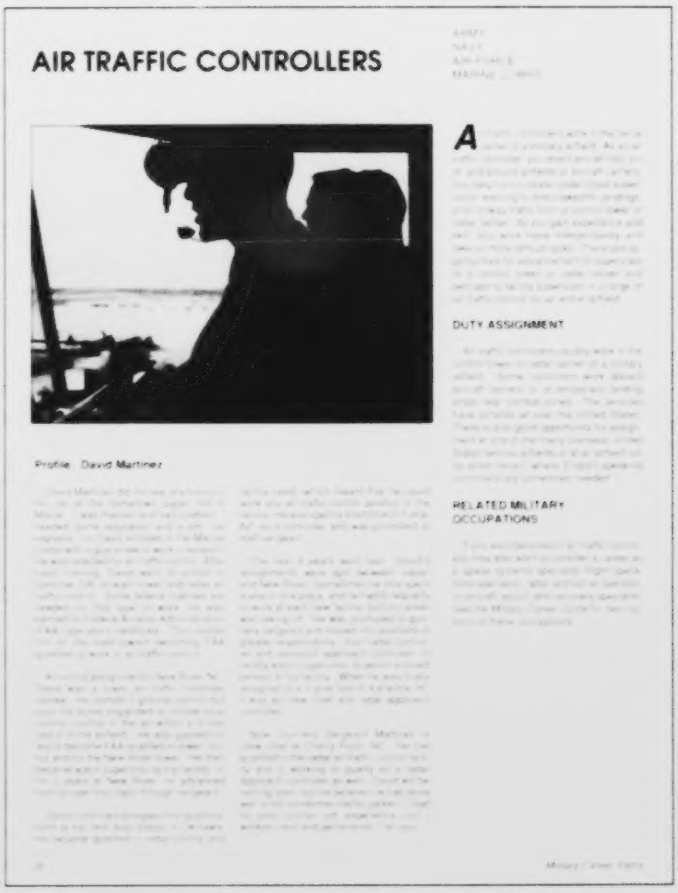
The "Profile" describes the actual duties and assignments of a military enlisted member or officer during his or her career. Because each individual career path is unique and spans many years, some assignments will not be typical or representative of current policy. However, the flavor and activities of a full career are accurately illustrated in the "Profile." The names in the profiles have been changed for privacy purposes.

Introduction

The "Introduction" summarizes the job duties and the career path for the military occupation.

Military Service Representation

The military services, listed next to the title, offer employment and training opportunities in the occupation. Exceptions to the "Typical Career Path" are explained at the end of the "Duty Assignment" section.

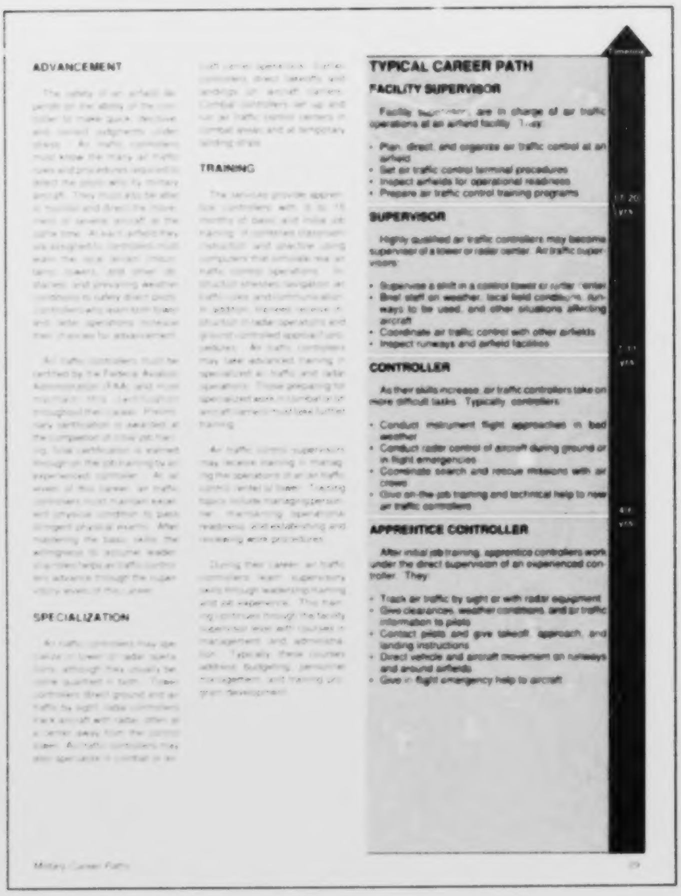


Duty Assignment

Throughout their careers, military personnel are assigned to new duties and locations. This section describes the type of military organizations and installations where people in this career may be assigned. It also discusses opportunities for oversea assignments. Any major exceptions to the typical career path are noted at the end of this section.

Related Military Occupations

This section identifies other occupations in the military services with similar work and career paths. Descriptions of the related occupations are in the *Military Career Guide*.



TYPICAL CAREER PATH

FACILITY SUPERVISOR

Facility supervisors are in charge of air traffic operations at an airfield facility. They:

- Plan, direct, and organize air traffic control at an airfield
- Set air traffic control terminal procedures
- Inspect airfields for operational readiness
- Prepare air traffic control training programs

SUPERVISOR

Highly qualified air traffic controllers may become supervisor of a tower or radar center. Air traffic supervisors:

- Supervise a shift in a control tower or radar center
- Brief staff on weather, local field conditions, runways to be used, and other situations affecting aircraft
- Coordinate air traffic control with other airfields
- Inspect runways and airfield facilities

CONTROLLER

As their skills increase, air traffic controllers take on more difficult tasks. Typically, controllers:

- Conduct instrument flight approaches in bad weather
- Conduct radar control of aircraft during ground or in flight emergencies
- Coordinate search and rescue missions with air crews
- Give on-the-job training and technical help to new air traffic controllers

APPRENTICE CONTROLLER

After initial job training, apprentice controllers work under the direct supervision of an experienced controller. They:

- Track air traffic by sight or with radar equipment
- Give clearances, weather conditions, and air traffic information to pilots
- Contact pilots and give takeoff, approach, and landing instructions
- Direct vehicle and aircraft movement on runways and around airfields
- Give in flight emergency help to aircraft

Advancement

Military careers typically advance through three to five career levels. Promotion to each level requires improving job skills and accepting more responsibility. This section describes the skills, qualities, and abilities needed to advance through the career levels.

Specialization

This section describes the types of job specialties available in this career and summarizes the career possibilities across the services. The career path and job duties for individual job specialties may differ somewhat from the "Typical Career Path" described in this book.

Training

This section summarizes the military training provided to personnel at all career levels. It describes initial job training, advanced skill training, training for job specialties, and leadership training.

Typical Career Path

This section describes the typical levels of advancement within the occupation. A description of the typical job duties is provided for each level. Because job specialties may differ among the services, some of the job titles and duties listed may not apply to all services. Each title shown in the "Typical Career Path" is descriptive of the duties for that level and is not a specific military job title.

Time Line

The "Time Line" illustrates the average time it takes to move through career levels. The time for each individual career will differ according to an individual's performance and the needs of the specific military service. It is important to remember that only qualified individuals are promoted to each level.

Introduction to Careers

Introduction to Careers

"What will I do when I finish school?" is a question all young people must answer sooner or later. For some, the answer is "Get a job." For others, the answer is, "Go to college or seek further training." Making this decision is a major step in the lifelong process of developing a career.

Starting a career is not as simple as finding a job. A career is a series of experiences that typically involve a progression in job responsibilities, skills, and pay. A career also means a commitment of time, talent, and energy beyond what is required for a single job. Because careers shape futures, they are worth planning carefully. You will have to plan, train, and search for the best possible mix of work experiences. You will have to consider your family, lifestyle, and leisure activities. Besides providing a living, your career will be a way of expressing your identity and contributing to your happiness.

When planning for your future, there are many questions to consider besides "Can I get a job?" and "How much will I make?" You also need to ask about job security, work environment, working hours, advancement potential, and whether you will enjoy the work. You will probably need some help to find answers to these questions. Parents, teachers, counselors, and many others in your community can assist you in gathering and evaluating information and thinking through your decisions.

Some people believe that once they have made a career decision, they will follow it for the rest of their life. That is not true. Like other decisions, career decisions are not necessarily permanent. People and jobs change over time; for example, people re-evaluate their careers because their interests and values change, or new technology alters the skills necessary for a career.

Planning your career may seem impossible. You may not be sure what you will want in the future. Because you will make a series of decisions regarding your career, however, the earlier you begin planning the better. Remember, you can always redecide as you learn more about yourself and careers.

To begin planning your career, you need to gather and analyze information, make decisions and set realistic goals, and begin to identify ways to reach your goals. You should look at career planning as a path that will take you through the world of work in a way that will satisfy your needs and desires. To begin the planning process, it is important to learn as much as possible about yourself and the world of work.

UNDERSTANDING YOURSELF

Before exploring career opportunities, you need to spend some time finding out about yourself. Your interests, abilities, and values are important in making career plans. They help you think about what you want in a career and what you are likely to enjoy.

Your counselor can help you begin to clarify your interests, abilities, and values and understand how to explore the world of work. Counselors can direct you to resources that will help you examine various occupations. You can use occupational information resources as a starting point to explore careers. Your counselor may also be able to give you tests that measure interests and abilities.

Interests

What do you enjoy doing or would you like to do? Do you like to work on car engines? Perhaps you enjoy writing stories or drawing pictures. Do you prefer to work by yourself or as part of a group? Exploring your interests is helpful at the beginning of the career planning process, knowing your interests will help you to identify careers to investigate.

Your interests are also important to your career development and enjoyment of life. Working in an occupation that interests you makes it easier to work harder and move up in a career. One way to learn more about your interests is to take an "interest inventory." Your counselor can suggest several interest inventories that will allow you to explore your interests in detail.

Values

What do you consider most important or desirable in life? We all place a high value on having food to eat and a place to sleep. We also have additional values that affect what we want from a career. Some people want a career that pays a high salary almost immediately, even if the work is not very interesting. Other people are willing to accept a career with lower wages if the work is challenging and exciting. Many people consider having flexible hours or opportunities to travel very important. Some people value having time to pursue non-work related interests such as being with their family. Understanding your values is important in planning your future.

Abilities

What do you do well? Are there school subjects in which you get particularly good grades? Are you physically strong and well coordinated? Can you communicate well with others? Have you worked to develop a skill such as playing a musical instrument? Your abilities can help you find occupations in which you may have a successful career. But just because you do not have the abilities for a certain occupation now does not mean that you cannot acquire them. Additional courses and training may help you to develop your abilities in certain occupational areas.

Also, it is possible that your interests and abilities may not always match. People are usually interested in things they do well, but this is not always the case. For example, a person may be interested in becoming an electronics technician, but may not have the manual dexterity to make the precise adjustments needed to keep electronic equipment functioning. However, with additional training, he/she may acquire the skills needed to become an electrical engineer or a computer programmer who helps to design electronic equipment.

Each year many high school students take the Armed Services Vocational Aptitude Battery (ASVAB). The ASVAB is a test that measures a person's academic and occupational abilities. ASVAB scores, combined with information about your interests, achievements, values, and other test results, may help you select appropriate areas for career exploration.

It is important to take stock of your interests, abilities, and values several times throughout your career. As you mature and gain more experience, your interests and values may change. It is important that you are aware of these changes when making career decisions in years to come.

LEARNING ABOUT CAREERS

There are many ways to learn about ifferent careers. The *Military Career Guide* describes over 200 different occupations offered by the Army, Navy, Air Force, Marine Corps, and Coast Guard. The *Occupational Outlook Handbook* (OOH) describes about 200 civilian occupations. The *Dictionary of Occupational Titles* (DOT) provides brief descriptions of ob duties for more than 20,000 occupaions. In addition, most schools have a computerized career information system hat provides state and local occupational nformation for individuals exploring the world of work. Your counselor, teachers, or librarians can direct you to these and other resources.

Once you have identified occupations hat appear interesting, you need to explore what it means to pursue a career in those occupations. You will want to know the nature of the work, the possibilities for advancement, the training you will need, and where you will likely work.

While exploring various careers, you also need to constantly be asking yourself "How well does this career meet my current interests, values, and abilities?" and "Will this career lead to a lifestyle I desire?" Chances for a rewarding career are improved if personal and career characteristics are similar.

Nature of the Work

In exploring careers, you need to find out the work you will likely be doing as you start out and how that may change over the course of a career. You should explore the duties, tools, and skills required of the career and how these have changed in the past. Changes in technology, such as computers and robots, are changing the way many jobs are performed. In exploring the world of work, you should consider how careers that interest you may change in the future. You also need to explore how your duties may change as you advance in skills and responsibilities. Some careers change very little except that you may be given more challenging assignments. Quite often, as you gain experience, you will begin to supervise others.

Advancement

Most of us want a career that will allow us to improve our standard of living as we grow older. You should explore occupations to identify the opportunities they offer for change and advancement. It is important to know about the positions you can move into from an entry-level job. But knowing what opportunities are available is only half the story. You also need to identify the education, skills, and experience required to move into the other positions and how long it will take you to qualify. This information will help you decide if you have the ability and determination to advance in that career field.

Training

While investigating careers, you should also consider the training involved. You may need to go to school just to qualify for entry into an occupation. If so, you should learn what training is required, where it is available, how long it will take, and how much it will cost. You will also need to decide whether you have the ability and determination to complete the program. Further training may also be needed to progress from the entry-level position.

Work Location

Another important part of career exploration is where you will be working. Work settings for occupations can be very different. Will you be working in an office or a warehouse, at a construction site or in corporate headquarters? Will you work for a manufacturer, in a retail store, or in a repair shop? The answers to these questions may also tell you about the types of people with whom you will be working. You will also need to know if jobs in an occupation are available in your community or if you will need to relocate.

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Developing Your Own Career Plan

you read the career profiles that are included later in *Military*
r Paths, each person's career is unique because no one has
y the same set of experiences—personal, educational, or
ated—as anyone else. Individuals grow, and their interests
change as they gain more knowledge and skills. The work
nment also changes, and never has that been more true
n today's world.

reer planning involves exploring careers or work situations
terest you and developing a plan to reach your desired
or work situation. Following the steps listed below, you can
developing your own plan. Completing these activities will
e time and energy on your part. Once you have finished all
eps, you will have developed an initial career plan.

1: Imagine your ideal career or work situation

scribe the ideal career or work situation you would like to
ve 5 years from now. Think of this as your career goal.

You may want to use reference books available from your school counselor such as the *Military Career Guide* or *Occupational Outlook Handbook* for information on various occupations or, if one is available, you may wish to use your school's computerized career information system.

tline a plan for obtaining the education/training or skills for
aching your desired career or work situation. Organize the in-
rmation into the following format:

Ideal Work Situation/Career Plan

- Career title or work situation
- Career description
- Education/training/skills required
- Plan for reaching my goal

Step 2: Share your goal and plan with others for their reactions

- Ask 2-3 friends for their views about your plan.
- Ask your counselor and/or teachers if they think your plan is realistic.
- Discuss your goal and plan with your parents and ask their advice.
- Interview 1 or 2 people whose work is similar to your career goal to learn the experiences they have had over the years.

Asking for feedback from others tests your ideas and helps you determine how realistic your plans are. Ask specific questions (e.g., Does my plan seem to build on my past experiences? Will this career result in a lifestyle I want? Will I be able to complete the education and training requirements?), and be sure that you understand the reasoning of those advising you.

Step 3: Revise your goal and plan

- Evaluate the feedback you received from others and make changes in your plan if necessary.
    - Perhaps you will need to seek more career information before doing so.

Step 4: Take action

- Begin actions to implement your plan.
- Develop a timetable to monitor and evaluate your progress.
    - Share your timetable and progress with others such as your parents or career guidance counselor.
- Continue to revise your goal and plan as you learn more.

Developing your career plan is not a one-time experience. It is a process that you will repeat many times in your life as you acquire more information about yourself and careers and as you experience new problems and opportunities. Your school counselor has additional information available to help you learn more about exploring the world of work and planning for your future.

General Information on Enlisted Careers

General Information on Enlisted Careers

GENERAL INFORMATION ABOUT ENLISTED PERSONNEL

Since 1973, the Army, Navy, Air Force, Marine Corps, and Coast Guard have relied on volunteers to fill approximately 300,000 enlisted job openings each year. This makes the military the largest employer of high school graduates in the nation. The military is also the nation's leading employer, with a work force of nearly 2 million men and women.

The military is divided into two groups: enlisted personnel and officers. Enlisted personnel are the workers who carry out the day-to-day operations of the military. They are the carpenters, tank drivers, mechanics, air traffic controllers, and electronics technicians in the military work force. Enlisted personnel are usually high school graduates and are required to meet minimum standards such as physical and aptitude requirements before enlisting. The qualifications required for enlistment are described in the "General Information on Enlisted Occupations" section of the *Military Career Guide*.

Officers are the professional leaders of the military and usually are college graduates. Officers receive management and leadership training for their roles as commanders of infantry units, ships, flying squadrons, and other military organizations. Young men and women hoping to become officers must meet the minimum entrance standards set by the services. The qualifications required for being commissioned as an officer are described in the General Information on Officer Occupations section of the *Military Career Guide*.

ENLISTED OCCUPATIONS

Like other employers, the military makes a significant contribution to the public welfare. Civilian employers provide products (such as cars, houses, televisions) or services (such as transportation, communications, health). The military also provides a service--national defense. In providing this service, military personnel perform complex, rigorous, difficult, and sometimes dangerous jobs.

Some enlisted personnel work in jobs directly related to combat, such as infantrymen or members of a tank crew. Many others work in jobs to support the combat effort. These are the people who operate and maintain modern weapons systems on land or aboard ships and aircraft. During peacetime, people in combat and combat support jobs must train continually to maintain a constant state of readiness. Some of these jobs are open only to men. According to federal laws and policies, women may not be assigned to duty that has a high probability of direct exposure to combat.

The fighting forces depend heavily on men and women working in jobs not directly related to combat. Food, medical services, transportation, and communications are but a few of the activities needed to support the nation's defense.

Together, the five services offer employment opportunities in over 2,000 enlisted job specialties. These specialties are summarized in 134 enlisted occupational descriptions in the *Military Career Guide*. Each description summarizes similar jobs across all services, giving general information about the nature of the job, training provided, and the work environment.

e services offer training and an op-
nity to progress in each occupation.
atter which occupation newly enlisted
nnel enter, they will find a well de-
career path leading to higher pay and
ased responsibility. The following
n of this book, *Military Career Paths,*
nts career descriptions for 25 of the
enlisted occupations in the *Military*
er Guide. The 25 descriptions include
st one occupation from each of the
e major groups of enlisted occupa-
They are illustrative of the careers
134 enlisted occupations shown in
ilitary Career Guide.

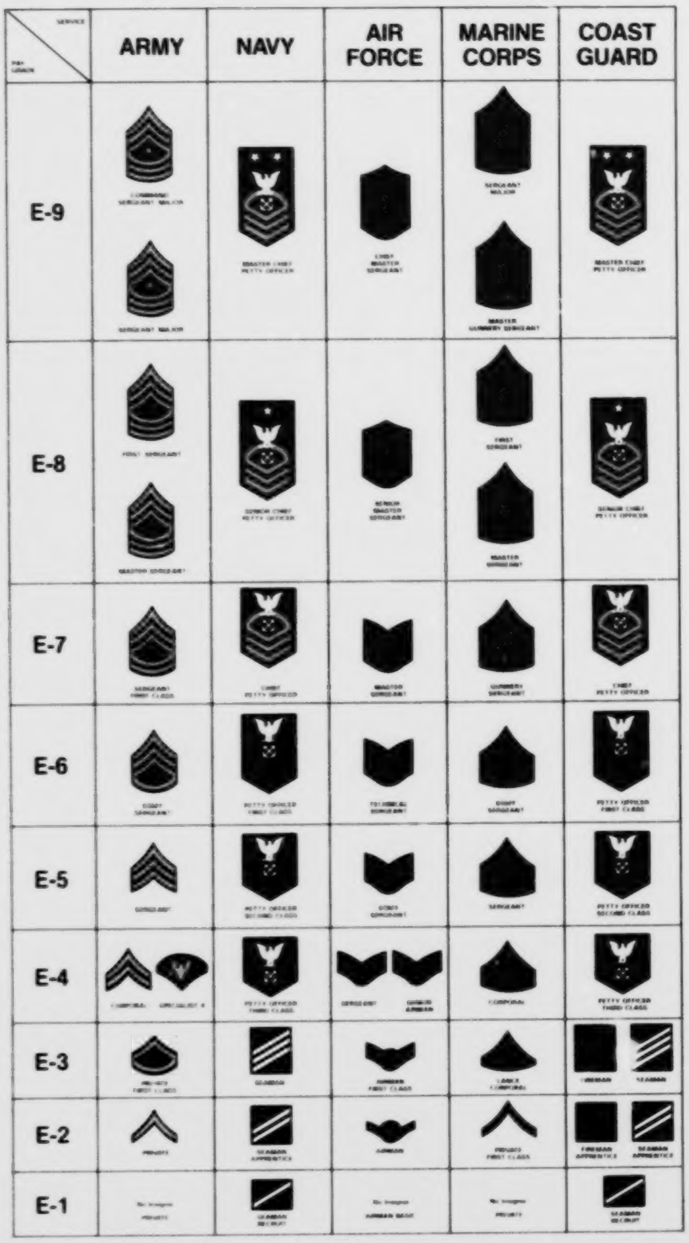
STED CAREER ANCEMENT

military career is more than just a job
military offers the opportunity to ad-
e in an exciting career. Motivated
and women continue to advance by
ving their job skills and taking on
er responsibility. Advancement
s recognition for a job well done, a
otion to more responsible duties, and
ases in military rank and pay grade.
grade and length of service determine
vicemember's pay. Figure 1 shows
signias for the ranks in each service.
o depicts the relationship between
and pay grade.

sted Promotion

en and women in the lower pay
es (E-1 to E-3) usually advance to the
grade based on their length of service
ime at their present pay grade. They
also receive their commanding offi-
approval and be satisfactorily pro-
sing in their training and job perform-
Only individuals who show superior
rmance may be promoted to E-4 (or
ommissioned officer status).

Figure 1
Enlisted Insignia of the United States Armed Forces


SERVICE
PAY GRADE
ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD
E-9
COMMAND SERGEANT MAJOR
SERGEANT MAJOR
MASTER CHIEF PETTY OFFICER
CHIEF MASTER SERGEANT
SERGEANT MAJOR
MASTER GUNNERY SERGEANT
MASTER CHIEF PETTY OFFICER
E-8
FIRST SERGEANT
MASTER SERGEANT
SENIOR CHIEF PETTY OFFICER
SENIOR MASTER SERGEANT
FIRST SERGEANT
MASTER SERGEANT
SENIOR CHIEF PETTY OFFICER
E-7
SERGEANT FIRST CLASS
CHIEF PETTY OFFICER
MASTER SERGEANT
GUNNERY SERGEANT
CHIEF PETTY OFFICER
E-6
STAFF SERGEANT
PETTY OFFICER FIRST CLASS
TECHNICAL SERGEANT
STAFF SERGEANT
PETTY OFFICER FIRST CLASS
E-5
SERGEANT
PETTY OFFICER SECOND CLASS
STAFF SERGEANT
SERGEANT
PETTY OFFICER SECOND CLASS
E-4
CORPORAL
SPECIALIST 4
PETTY OFFICER THIRD CLASS
SERGEANT
SENIOR AIRMAN
CORPORAL
PETTY OFFICER THIRD CLASS
E-3
PRIVATE FIRST CLASS
SEAMAN
AIRMAN FIRST CLASS
LANCE CORPORAL
FIREMAN
SEAMAN
E-2
PRIVATE
SEAMAN APPRENTICE
AIRMAN
PRIVATE FIRST CLASS
FIREMAN APPRENTICE
SEAMAN APPRENTICE
E-1
No insignia
PRIVATE
SEAMAN RECRUIT
No insignia
AIRMAN BASIC
No insignia
PRIVATE
SEAMAN RECRUIT

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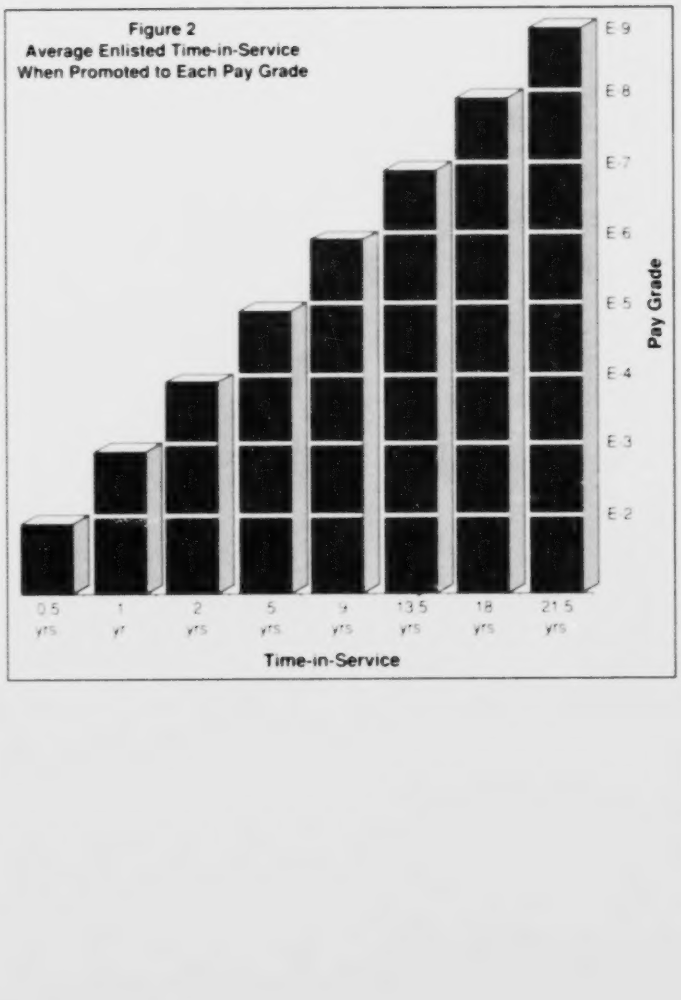
Figure 2
Average Enlisted Time-in-Service When Promoted to Each Pay Grade

Enlisted personnel can qualify for further promotions based on their length of service, time in present pay grade, job performance, leadership ability, and awards or commendations. Each service sets minimum standards for the length of service and time in current pay grade that must be met before a person can compete for promotion to the next higher pay grade. Figure 2 shows the average time an enlisted member has been in the military (time-in-service) when he or she is promoted to each pay grade. For example, it takes an average of one year to reach pay grade E-3 and nine years to reach E-6. The time-in-service and advancement information shown is developed from data provided by each of the services.

All enlisted personnel are led, supervised, and evaluated by senior enlisted personnel and officers. Factors that qualify an enlisted person for promotion include:

- Performance of job duties
- Ability to work with others
- Educational achievement through technical, on-the-job, or civilian instruction
- Knowledge of service regulations, discipline, and ability to carry out orders
- Appearance and behavior

Good performance reports are essential to continue along a career path. Although a good performance report does not automatically qualify an individual for promotion, a less than satisfactory rating severely limits chances for promotion. By selecting from among qualified individuals for promotion to each rank, the services ensure that the best qualified personnel are promoted. Since the number of enlisted positions are limited by Congress, the competition for promotion at the senior levels is intense. Changes in the number of personnel in a particular specialty, or in the armed services as a whole, can also affect promotion.

In some services, enlisted personnel may be required to take examinations that test their knowledge of their job specialty before being promoted. Exam scores of personnel in the same pay grade and job are then ranked. The need to take competitive examinations for advancement varies by rank and job specialty.

Enlisted Commissioning Programs

Officers and enlisted personnel advance along separate career paths. However, each service has programs that enable selected enlisted personnel to become commissioned officers. The entrance standards for these programs are high, and the competition strong.

Typically, there are two ways for enlisted personnel to earn commissions: through direct appointment to officer training and through service programs that send enlisted personnel to college full time to obtain a degree. Direct appointment programs usually require an outstanding performance record and a college degree. Individuals selected for these programs go to officer training schools operated by their service. Enlisted personnel selected for a program to complete their college degree attend college through an ROTC program or one of the service academies. After completing officer training, these individuals are awarded a commission as an officer in their service.

SERVICE SUPPORT FOR CAREER ADVANCEMENT

From the time enlisted personnel take the oath of enlistment until the last day of their active duty, the services play an important role in supporting their career development. The services offer a wide range of training and development opportunities to help each servicemember build a career. However, to really succeed, an enlisted person must take advantage of the opportunities provided.

Training

The military operates one of the largest training systems in the world. The five services run nearly 300 technical training schools offering more than 10,000 separate courses of instruction. Civilian employers and educators agree that military training programs are among the best available.

Education and training provided by the services offer servicemembers valuable opportunities for career development. The services spend billions of dollars each year training servicemembers for jobs ranging from air traffic controller to welder. The main purpose of this training is to prepare individuals to perform their jobs in the service. Training also helps individuals meet personal goals and prepares them to assume greater responsibility in the service work force.

Training begins with recruit training, also called basic training or boot camp. A description of recruit training for each of the five services is contained in the "Service Information on Enlisted Occupations" section of the *Military Career Guide*.

Initial Job Training

Following basic training, enlisted personnel usually attend a service technical school for training in their occupation. However, some may go directly to their first job for on-the-job instruction. The initial training prepares enlisted personnel to perform the basic tasks of their occupation. It covers basic skills (for example, typing, electronics, or aviation fundamentals) required by a job. It also covers basic tasks (for example, operating and maintaining equipment) that enlisted personnel will perform in their first assignment. The skills and tasks required by a particular job determine the length of initial training. Most training courses take two to four months. Training courses for many technical specialties may take 6 to 12 months.

On-the-Job Training

All enlisted personnel receive on-the-job training at their first job. This training, a process of learning to apply basic skills to many different tasks, continues as long as the individual stays in the job. For example, air traffic controllers must learn the layout, weather patterns, and potential obstacles at each airfield to which they are assigned. New equipment, changes in duty assignment, and additional responsibilities also offer enlisted personnel new on-the-job experiences and challenges. The services rely heavily on on-the-job training to produce qualified candidates for promotion. Even basic supervision and management skills are learned on-the-job under the direction of senior enlisted personnel.

U.S. AIR FORCE

Three services, the Army, Navy, and Marine Corps, offer apprenticeship programs certified by the U.S. Department of Labor. Enlisted personnel in these programs keep a log of their formal courses, on-the-job training, and work experiences until they complete the requirements for certification. The occupations for which the services offer an apprenticeship program are indicated in the training section of the job descriptions in the *Military Career Guide*.

Advanced Training

Hundreds of courses have been developed by the services to improve the technical skills of the enlisted work force. These courses offer instruction in advanced skills not covered in initial training. An automobile mechanic, for example, may take advanced instruction in troubleshooting (identifying engine problems) or preventive maintenance techniques. Advanced training also includes courses covering new or additional job-related equipment. For example, an auto mechanic may go to school to learn how to repair a new type of vehicle or a radiologic technician may take instruction in the use of ultrasound equipment. Advanced training is especially important in high technology areas where military technicians are constantly being exposed to newer and more sophisticated equipment. Other advanced courses provide instruction in supervising and managing the daily operations of military units, such as repair shops or medical facilities.

The services also provide enlisted members with a wide choice of self-study correspondence courses. Some of these are general courses and address most duties of a job. Other courses are designed to cover highly complex tasks or job-related skills. Self-study courses are particularly important to individual career advancement. Completing a self-study course can provide a servicemember with the job skills and knowledge to perform more advanced job duties. Self-study courses also include material that prepares enlisted personnel to take the competitive examinations required to advance through the noncommissioned officer ranks.

Leadership Training

Each service has schools and courses to help supervisors be more effective in managing the day-to-day operation of their unit. These classes are designed primarily for noncommissioned officers. Courses include instruction in leadership skills, service regulations, and management techniques needed to train and lead other servicemembers.

Career Development, Guidance, and Counseling

Almost every military base has an education center. At these centers, counselors are available with information about education and training (military and civilian) and requirements for career advancement. They can also provide information about retraining for other military occupations.

Counselors coordinate the services' education programs and help service men and women set educational goals. They can explain the many opportunities available and help servicemembers enroll in programs or courses. The counselors help enlisted personnel tailor their educational program to meet their career goals.

Continuing Education

The services recognize the value of education, both military and civilian. Military training helps enlisted personnel do their job and develop leadership and supervisory skills. Continuing civilian education, regardless of the subject, also helps an enlisted person to become a more well-rounded individual who is better prepared to deal with the challenges of service life. The services offer many programs to help and encourage enlisted men and women to continue their civilian education. Enlisted personnel may enroll in courses to earn a college degree, improve their work skills, or simply for personal enjoyment. Each service's training department offers self-study courses on many different topics in which any enlisted person may enroll. Some of the other available programs are described below.

Defense Activity for Nontraditional Education Support (DANTES)

DANTES, a program operated by the Department of Defense to support education in all of the services, helps develop and administer education programs. In addition to supporting individual service programs, DANTES also offers many different programs for active duty servicemembers. The College Level Examination Program (CLEP) allows servicemembers to obtain college credits through examination without attending courses. The Independent Study Program allows enlisted personnel to take high school through graduate level self-study courses offered by accredited colleges and universities.

Servicemembers Opportunity Colleges (SOC)

The Servicemembers Opportunity Colleges are a consortium of colleges and universities that help enlisted personnel satisfy the requirements for a college degree. Because enlisted personnel are frequently reassigned, they can find it difficult to complete their coursework for a degree at one college or university. In this program, more than 400 participating colleges and universities accept credits earned at other schools and award credit for some military training courses. Through the SOC, enlisted personnel can more easily complete the requirements for a college degree.

Other College Programs

The services offer tuition assistance programs that pay from 75 to 100 percent of the fees for off-duty study in most courses at accredited schools, depending upon the availability of funds. Enlisted personnel can use these courses to pursue bachelor's or advanced degrees. The services also have agreements with many colleges and universities that allow the schools to hold classes on the base. Similar programs also offer courses at oversea locations and aboard ships.

DUTY ASSIGNMENT

The five services have similar systems for assigning personnel to jobs. Each system is designed to satisfy the staffing needs of the particular service. For example, if the service needs a machinist at a remote location, a servicemember trained as a machinist is assigned there. However, at the same time, the services also attempt to meet the desires of the individual servicemember and provide the best opportunity for career development. The duty assignment process determines where enlisted personnel work, how often they move, and the opportunities open to them.

Assignment Decisions

The services use noncommissioned officers who are familiar with a particular occupation to manage assignments for people in that job. Although they cannot always meet each person's needs or desires, these noncommissioned officers try to make duty assignments that will enhance the servicemember's career.

Each service tries to give enlisted members job assignments in different types of organizations. Gaining a range of experience is important to people at supervisory levels, since with each assignment servicemembers learn more about their job and gain confidence in their ability to react effectively to unexpected events or to assume greater responsibility.

Possible Location

Enlisted personnel are stationed in each of the 50 states and in countries all over the world. They are routinely reassigned after two-, three-, or four-year tours of duty. To many people, this is one of the attractive parts of service life and, in fact, many join for the opportunity to travel, live in foreign countries, and see different parts of the United States. Nearly three-quarters of all service personnel are assigned to duty in the United States. Each service also has personnel stationed overseas; most of them are located in Europe, in countries such as Great Britain, Italy, and West Germany. Many enlisted personnel are also assigned to the Pacific and Far East in countries such as Japan, South Korea, the Philippines, and Australia. During their careers, many servicemembers will have at least one overseas assignment. Several of the services have programs that allow enlisted personnel returning from overseas to select the location in the United States where they will be stationed.

Length of Tours

The time that an enlisted person spends at a particular duty assignment is called a tour. The length of a tour varies by service and geographic location. Typically, a tour lasts from three to four years, although there are many exceptions.

LISTED WOMEN

Today, women are a vital part of the S military. Over time, the scope of men's opportunities in the military has panded and women are currently eli e to enter about 87 percent of all en ed job specialties. Enlisted military men now serve in many traditional and traditional occupations such as nurs technician, helicopter mechanic, and sile maintenance.

As occupational opportunities in the tary have increased for women, so e the number of women serving in the tary. Over the past 15 years, the mber of enlisted women in the military s risen from 2 percent to about 10 per nt of active duty personnel. The total mber of women in the enlisted forces e to a new high of over 190,000 in 1987.

Advancement opportunities are good enlisted women. The average time-in- vice for enlisted women promoted to ch pay grade is the same or slightly less n for men. Also, women reenlist in the tary at roughly the same rate as men.

According to federal laws and policies, men may not be assigned to duty that olves a high probability of exposure to ect combat. Occupations in this book t are not open to women are indicated at bottom of the "Time Line" in each cupational description. Despite federal s and policies, the military's commit nt to integrate women into the military s never been greater and suggests that future will provide even greater oppor ities for women in the military.

Table 1 – 1989 Basic Pay for Enlisted Members (Annual Figures)

Pay Grade	Years of Service Under 2 yrs	2	3	4	6	8	10	...	26
E-9	*	*	*	*	*	*	*	...	$32,388
E-8	*	*	*	*	*	*	$21,896	...	28,920
E-7	*	*	*	$17,064	$17,652	$18,204	18,792	...	26,028
E-6	$12,672	$13,812	$14,388	15,000	15,552	16,116	16,716	...	*
E-5	11,124	12,108	12,696	13,248	14,112	14,688	15,276	...	*
E-4	10,368	10,956	11,592	12,492	12,984	*	*	...	*
E-3	9,768	10,308	10,716	11,148	*	*	*	...	*
E-2	9,408	*	*	*	*	*	*	...	*
E-1	8,388[1]	*	*	*	*	*	*	...	*

[1] E-1 Basic Pay for the first four months is $646 per month ($7,752 on an annual basis).

* Military personnel with this many years of service will probably not be in this pay grade (Pay scale between 10 and 26 years not shown).

PAY AND BENEFITS

Military personnel in all five services are paid according to the same pay scale and receive the same basic benefits. Military pay and benefits are set by Congress, which normally grants a cost-of-living pay increase once each year. In addition to pay, the military provides many of life's necessities, such as food, clothing, and housing, or pays monthly allowances for them. The following sections describe military pay, allowances, and benefits in more detail.

Basic Pay

The major part of a servicemember's paycheck is basic pay. Basic pay depends on the pay grade and number of years the enlisted member has been in the service (years of service). Table 1 contains information on annual basic pay as of 1989. Using this table, you can find that a person who has been in the service for eight years, and advanced to pay grade E-6, receives a basic pay of $16,116 per year.

Incentives and Special Pay

The military offers incentives and special pay (in addition to basic pay) for certain types of duty. For example, incentives are paid for submarine and flight duty. Other types of hazardous duty with monthly incentives include parachute jumping, flight deck duty, and explosives demolition. In addition, the military gives special pay for sea duty, diving duty, special assignments, duty in some foreign places, and duty in areas subject to hostile fire. Depending on the service, bonuses are also paid for entering and reenlisting in certain occupations.

Allowances

Many enlisted members and their families live free of charge in military housing on the base where they are assigned. Those living off base receive a housing (quarters) allowance in addition to their basic pay. In 1989, the monthly housing allowance ranged from $150 to $491, depending on pay grade and number of dependents. The food allowance ranged from $158 to $256 per month, depending on living circumstances. Because allowances are not taxed, they provide a significant tax savings, adding to their cash value.

When added together, housing and food allowances, along with their tax savings, are substantial additions to basic pay. Table 2 contains information on the total value of basic pay, allowances, and tax savings, called Regular Military Compensation. The table represents the amount of pay a civilian worker would need to earn to realize the same "take home" pay as a servicemember. These figures are a more realistic basis for comparing military and civilian wages than the figures in Table 1. Using this table, you can find that a person who has been in the service for eight years and advanced to pay grade E-6, receives regular military compensation of approximately $24,812 per year.

Employment Benefits

Military personnel receive substantial benefits in addition to their pay and allowances. While they are in the service, enlisted member benefits include health care for themselves and their dependents, 30 days of paid vacation each year, legal assistance, recreation programs, education assistance, and commissary/exchange (military store) privileges. Military family members also benefit from these privileges.

Table 2 – 1989 Regular Military Compensation (Annual Figures)

Pay Grade	Years of Service								
	Under 2 yrs	2	3	4	6	8	10	...	26
E-9	*	*	*	*	*	*	*	...	$43,354
E-8	*	*	*	*	*	*	$31,918	...	39,001
E-7	*	*	*	$25,408	$26,945	$27,558	28,149	...	35,439
E-6	$21,320	$22,490	$23,076	23,706	24,258	24,812	25,402	...	*
E-5	18,852	19,849	20,452	21,019	21,880	22,452	23,031	...	*
E-4	16,914	17,520	18,178	19,073	19,570	*	*	...	*
E-3	15,732	16,278	16,700	17,134	*	*	*	...	*
E-2	14,095	*	*	*	*	*	*	...	*
E-1	13,209[1]	*	*	*	*	*	*	...	*

Regular Military Compensation reflects basic pay, allowances, and the value of the tax advantage for allowances.

[1] E-1 Regular Military Compensation for the first four months is $1,032 per month ($12,379 on an annual basis).

* Military personnel with this many years of service will probably not be in this pay grade. (Pay scale between 10 and 26 years not shown).

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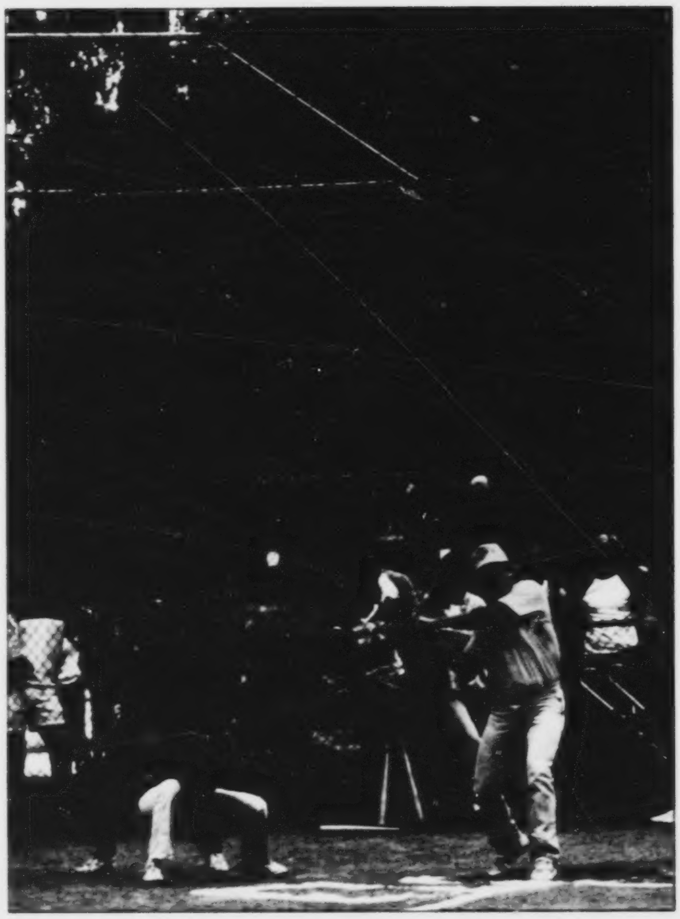

Retirement Benefits

The military offers one of the best retirement programs in the country. After 20 years of active duty, persons may retire and receive a monthly payment equal to 40 percent of their average basic pay for their last five years of active duty. Persons who retire with more than 20 years of service receive higher pay. Other retirement benefits include medical care and commissary exchange privileges.

Veterans' Benefits

Veterans of military service are entitled to certain veterans' benefits set by Congress and provided by the Veterans Administration. In most cases, these include hospitalization, home loans, survivor benefits, educational benefits, disability benefits, and assistance in finding civilian employment.

Examining Enlisted Career Descriptions

The previous section provided general career information about military enlisted personnel. Deciding to join the military is typically an initial career decision; the career path of each enlisted person is different as it reflects the interests, skills, and abilities of that individual and availability of different military occupations. As you read the specific career descriptions that follow, keep in mind that individuals who choose the military as their work place have many opportunities for change and advancement.

Read the profile for Juan Delgado under "Computer Programmers" on page 40. Several examples mentioned show the uniqueness of Juan's experiences in the military. For example:

- Juan did not join the military right after graduating from high school. He tried many things, including college and the National Guard, before deciding to enlist.
- Upon enlistment, Juan did not start in computer programming. He spent his first four years in the infantry, moving to computer programming after reenlisting.
- After computer school, Juan started as a programmer/analyst. While working in that position, he learned technical writing—in other words, Juan was preparing himself for advancement while carrying out his job responsibilities.
- Juan notes that he likes "interacting with other programmers/analysts." Juan's ability to work with people as well as computers should help him if he decides to seek advancement into supervisory positions.
- Juan Delgado's first assignment was overseas even though most military computer programmers work in the United States.

Questions to Consider

Ask yourself the following questions as you read each enlisted career description:

Would I like to have a career in this occupation?

If what you read in the description and typical career path interested you, learn more about it and related enlisted occupations in the *Military Career Guide*.

How much training and retraining is necessary to succeed in this career?

Computer programmers receive training and retraining throughout their careers because of [illegible] technology. The military is also supportive of those who take the initiative to obtain training on their own.

How can I advance in rank and responsibility?

In computer programming, as in most careers, advancement usually includes taking on supervisory responsibilities. Look at the average timelines for advancement. Remember that not all people advance at this rate—advancement is dependent upon succeeding in training and job performance and receiving approval from one's commanding officer.

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Sample of Military Enlisted Career Descriptions

ADMINISTRATIVE SUPPORT SPECIALISTS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Profile: Ray Lee

[illegible]

[illegible] computers and word processors. He liked his new career. "I enjoy working with people and I like a desk job," he explains.

After 2 years at the Yard, Ray was assigned to USCG Headquarters, Washington, DC, in the legal administration division, where he worked processing and preparing legal documents. He was selected for a 16-week course at the Defense Race Relations Institute, Patrick Air Force Base, FL, where he trained to be an equal opportunity [illegible]

[illegible]

After [illegible] years [illegible] Ray was again assigned to USCG Headquarters, this time in the command post exercise division. Working with classified information, he helped coordinate and plan war games for 2 years. He was then personally selected by the Master Chief Petty Officer of the Coast Guard to be his aide. Since he works for the top enlisted person of the Coast Guard, he feels he must know everything. "I have to be ready to carry on when he's not there," says Ray.

The services need accurate and up-to-date information to make sound planning and management decisions. Written and automated records are kept on almost all aspects of the military, including funds, supplies, personnel, and equipment. As an administrative support specialist, you maintain files, record information, and type reports and correspondence. You begin your career performing typing and clerical duties. As you gain experience, you may help manage office operations. There are opportunities to ad[illegible] supervisor and perhaps to [illegible]

DUTY ASSIGNMENT

Administrative support specialists usually work in office settings on land and aboard ship. Many work alone or in small groups, giving clerical help to small or medium sized military units. Others are assigned to large administrative offices that provide a broad range of clerical services. Those who work in these consolidated offices are likely to work with civilian employees. Many specialists are also assigned to [illegible] the administration of [illegible] supply units. Most administrative specialists work at military [illegible] States, but opportuni[illegible] duty.

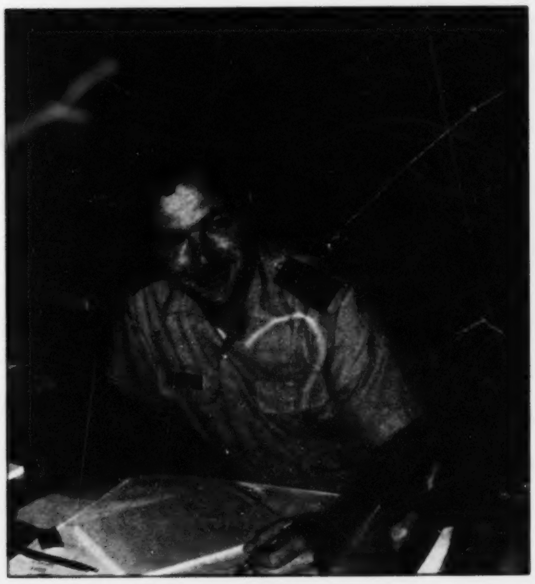
ADVANCEMENT

[illegible] support specialists [illegible] with other people, they [illegible] communications skills [illegible] with others. The [illegible] and accurate paperwork [illegible] administrative support specialists [illegible] work with many different [illegible] and regulations, they must be logical, well organized, and have a good memory for detail. They must also have excellent typing skills and a superior knowledge of spelling, grammar, and punctuation. After mastering the basic skills, the willingness to assume leadership roles and additional responsibilities helps administrative support specialists advance through the supervisory levels of this career.

TRAINING

The services provide administrative support specialists with 10 to 14 months of basic and initial job training. It combines classroom instruction and on-the-job training. Classroom training emphasizes typing and updating manuals and regulations. On-the-job training includes such topics as filing systems, office practices, and special requirements for routing administrative materials. Depending on their assignment, administrative support specialists may be trained to operate computer terminals, teletype machines, or word processing equipment.

During their career, administrative support specialists learn supervisory skills through leadership training and job experience. This training continues through the level of office manager with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.



RELATED MILITARY OCCUPATIONS

If you are interested in administrative support work, you may want to consider a career as an accounting specialist, court reporter, data entry specialist, payroll specialist, or personnel specialist. See the Administrative Occupations cluster of the *Military Career Guide* for descriptions of these and other related occupations.

TYPICAL CAREER PATH

Timeline

OFFICE MANAGER

Office managers supervise a consolidated office facility or serve as senior supervisor at a command or staff headquarters. They:

- Plan and control administrative support
- Implement or recommend new office procedures
- Obtain office furniture, equipment, and supplies
- Develop operating budgets and track expenses

17-19 yrs

CLERICAL SUPERVISOR

Administrative technicians may advance to become clerical supervisors responsible for supervising one or more administrative support sections. They:

- Train new personnel
- Prepare directives, job descriptions, and standard operating procedures
- Review and edit correspondence before routing for signature
- Divide the work load among personnel
- Sign for, log, inventory, file, and safeguard classified documents

9-12 yrs

ADMINISTRATIVE TECHNICIAN

Administrative technicians perform responsible clerical duties and give technical assistance to administrative clerks. They may:

- Proofread typed material for errors in spelling, punctuation, sentence structure, and missing or unnecessary information
- Route copies of letters, memos, and forms for rework or signature
- Maintain logs, duty rosters, and leave records
- Compose and type routine correspondence
- Take and transcribe dictation

4-6 yrs

ADMINISTRATIVE CLERK

After initial job training, administrative clerks perform clerical duties. They:

- Type regulations, directives, requisitions, correspondence, and similar materials from notes, drafts, and instructions
- Check draft and final copies for spelling, grammar, typing errors, proper format, and use of authorized abbreviations
- Greet and direct visitors to the proper office
- Answer telephones and take messages
- Open, sort, route, and deliver mail and messages

AIR CREW MEMBERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Profile: Dennis Goelf

At 22, Dennis Goelf had finished high school and had been working for 4 years when he decided to join the Air Force. At first he thought he wanted to be an aircraft mechanic, but during basic training, he volunteered to go to loadmaster school. He says, "That way I could be a mechanic and I could fly." He completed 3 months of training in Savannah, GA, and then spent 3 more years there maintaining air cargo and airdrop equipment. He also flew missions to drop supplies for use in field exercises.

After 4 1/2 years, Dennis decided he wanted an Air Force career. He liked his job, the security it provided, and the opportunity it gave him to get ahead. By reenlisting, Dennis also knew he would go to Vietnam on his next assignment. For nearly 2 years, he flew out of Okinawa, delivering food, supplies, and troops to Vietnam—sometimes dropping supplies to troops in the field.

For the past 15 years, Dennis has been assigned to McGuire Air Force Base (AFB), NJ. Even though he has remained at one base, he has held many different jobs and has traveled worldwide. He has also completed an associate's degree through courses offered on base and a bachelor's degree through a special on-base program run by a private college.

Dennis has advanced during his time at McGuire. Shortly after arriving, he became crew leader. He then worked his way up the ladder in his squadron, taking on more responsibility. As an instructor, he prepared new loadmasters for work on C-141 aircraft. He advanced to flight examiner and then to assistant chief of loadmasters. After 10 years at McGuire, Dennis became an air crew operations manager. This position brought him his most challenging assignment—managing all Air Force cargo and passenger equipment from the Mississippi River to Egypt. Dennis made sure that the right type of equipment, from cargo containers to passenger seats, was available at the right airfield when it was needed. For the past several years, Dennis has been the chief of loadmasters for several different squadrons, managing loadmasters carrying supplies throughout the world.

Personnel in each service can "earn their wings" and qualify as a member of a flight crew. Air crew members perform specialized duties for many different military missions. As an air crew member, you may operate in-flight refueling systems, defensive guns on bombers, or submarine detection systems. You may also perform rescue and recovery missions or direct cargo and passenger loading, unloading, and airdrops. You begin your career performing the tasks of your specialty that you will continue to perform throughout your career. As you develop leadership skills, there are opportunities to advance to air crew leader and perhaps to air crew operations supervisor.

DUTY ASSIGNMENT

Air crew members work in all types of aircraft, from cargo planes and bombers to helicopters. Air crews operate from airfields or ships anywhere in the world, but the specialty an air crew member selects affects the assignments available. For example, loadmasters are assigned to airlift squadrons whose missions of moving cargo and passengers take them on flights all over the world; gunners, on the other hand, are assigned only to squadrons flying large bombers and usually return to their home base at the end of each mission. Overseas assignment opportunities may be limited for some specialties, but most air crew members travel as part of their job.

RELATED MILITARY OCCUPATIONS

If you are interested in becoming an air crew member, you might also want to consider a career as a flight engineer or an aircraft launch and recovery specialist. See the Transportation and Material Handling Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

ADVANCEMENT

Air crew members must have a genuine interest in flying and be in excellent physical condition. They must pass periodic flight physical examinations to keep their qualifications to fly. Air crew members must master the duties of their specialty to gain the confidence of the aircraft commander and other crew members. They must also be able to work efficiently as a member of a team, sometimes during hazardous and stressful situations. Because there is little room for error in aircraft flight crew operations, they must be able to perform their duties in a calm and deliberate manner. After mastering the basic skills, the willingness to assume leadership roles and to accept additional responsibilities helps air crew members advance through the supervisory levels of this career.

SPECIALIZATION

Air crew members specialize in such areas as:

- In-flight refueling--extending fuel hoses from the tail section of a tanker aircraft to the receiving port of the aircraft to be fueled and operating controls to pump fuel loads
- Defensive gunnery--operating aircraft gun systems to repel and destroy enemy attack aircraft
- Antisubmarine warfare--operating acoustic sensors (machines that detect sounds), airborne radar or sonar, or infrared equipment (machines that detect heat) on jets or helicopters to find and identify submarines
- Rescue and recovery--operating helicopter hoists to lift equipment and personnel from land or sea
- Air transport--planning and directing the loading, unloading, and weight distribution of cargo or personnel, including directing cargo or troop airdrops

TRAINING

The services provide aircrew members with 8 to 13 months of basic and initial job training. It combines classroom instruction, practical exercises, and on-the-job training. Depending on the air crew specialty, classroom training covers operation and maintenance of equipment as well as flying duties. Specialties may also require courses in air crew survival, scuba diving, combat crew training, or aircraft emergency procedures.

On-the-job training is conducted by air crew leaders. This training continues throughout the career through special mission flight operations and debriefing sessions conducted by the aircraft commander and the air crew operations supervisor. Air crew members may return to school at any time for training in new aircraft or airborne equipment used in their specialty.

During their career, air crew members learn supervisory skills through leadership training and job experience. This training continues through the air crew operations supervisor level with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.

TYPICAL CAREER PATH

Timeline

AIR CREW OPERATIONS SUPERVISOR

Highly skilled air crew leaders may become supervisors of air crew operations. They:

- Plan and organize air crew activities
- Assist in planning in-flight operations and training missions
- Conduct mission briefings and prepare operations orders
- Inspect and evaluate unit activities and facilities
- Review air crew records and reports for accuracy and completeness

18-21 yrs

AIR CREW LEADER

Skilled air crew members may become crew leaders. At this level, they:

- Plan, schedule, and assign work duties
- Instruct air crew members about equipment changes
- Conduct in-flight and ground air crew training programs
- Conduct inspection of airborne systems and equipment
- Prepare in-flight mission reports and logs

6-11 yrs

AIR CREW MEMBER

Depending on their specialty after initial job training, air crew members may:

- Conduct the preflight check or verify the airworthiness of airborne equipment
- Operate and control tanker aircraft in-flight refueling systems
- Operate aircraft missile or gun systems on strategic bombers
- Operate airborne antisubmarine detection and tracking equipment
- Perform helicopter-assisted rescue and equipment recovery operations
- Prepare plans for loading aircraft fuel, cargo, and passengers
- Perform operational maintenance on specialized airborne equipment

AIR TRAFFIC CONTROLLERS

ARMY
NAVY
AIR FORCE
MARINE CORPS

Profile: David Martinez

David Martinez did not see any future in his job at the hometown paper mill in Maine. "I was married and had children. I needed some education and a job," he explains. So David enlisted in the Marine Corps with a guarantee to work in aviation. He was selected for air traffic control. After basic training, David went to school in Glencoe, GA, to learn tower and radar air traffic control. Since federal licenses are needed for this type of work, he also earned his Federal Aviation Administration (FAA) operator's certificate. This started him on the road toward becoming FAA qualified to work in air traffic control.

At his first assignment in New River, NC, David was a tower air traffic controller trainee. He started in ground control, but soon his duties expanded to include local control (control in the air within a 5-mile radius of the airfield). He also passed his test to become FAA qualified in tower control and for the New River tower. He then became watch supervisor at the facility. In his 2 years at New River, he advanced from private first class through sergeant.

David continued to expand his qualifications at his next duty station in Okinawa. He became qualified in radar control and facility rated, which meant that he could work any air traffic control position in the facility. He also spent a short time in Yuma, AZ, as a controller and was promoted to staff sergeant.

The next 8 years went fast. David's assignments were split between Japan and New River. Sometimes he only spent a year in one place, and he had to requalify to work at each new facility, but his career was taking off. He was promoted to gunnery sergeant and moved into positions of greater responsibility – from radar controller and assistant approach controller, to facility watch supervisor, to senior enlisted person at his facility. When he was finally assigned to a 3-year tour in Kaneohe, HI, it was as crew chief and radar approach controller.

Now Gunnery Sergeant Martinez is crew chief at Cherry Point, NC. He has qualified in the radar air traffic control facility and is working to qualify as a radar approach controller as well. David will be retiring soon, but he believes he has done well in his sometimes hectic career. "I had no prior civilian job experience, but I worked hard and persevered," he says.

Air traffic controllers work in the nerve center of a military airfield. As an air traffic controller, you direct aircraft into, out of, and around airfields or aircraft carriers. You begin your career under close supervision learning to direct takeoffs, landings, and runway traffic from a control tower or radar center. As you gain experience and skill, you work more independently and take on more difficult tasks. There are opportunities for advancement to supervisor of a control tower or radar center and perhaps to facility supervisor in charge of air traffic control for an entire airfield.

DUTY ASSIGNMENT

Air traffic controllers usually work in the control tower or radar center of a military airfield. Some controllers work aboard aircraft carriers or at temporary landing strips near combat zones. The services have airfields all over the United States. There is also good opportunity for assignment at one of the many overseas United States service airfields or at an airfield run by allied forces, where English-speaking controllers are sometimes needed.

RELATED MILITARY OCCUPATIONS

If you are interested in air traffic control, you may also want to consider a career as a space systems specialist, flight operations specialist, radar and sonar operator, or aircraft launch and recovery specialist. See the *Military Career Guide* for descriptions of these occupations.

ANCEMENT

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Air traffic controllers
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traffic controllers must be
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CIALIZATION

traffic controllers may spe-
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r. Air traffic controllers may
specialize in combat or air-

craft carrier operations. Carrier controllers direct takeoffs and landings on aircraft carriers. Combat controllers set up and run air traffic control centers in combat areas and at temporary landing strips.

TRAINING

The services provide apprentice controllers with 9 to 15 months of basic and initial job training. It combines classroom instruction and practice using computers that simulate real air traffic control operations. Instruction stresses navigation, air traffic rules, and communication. In addition, trainees receive instruction in radar operations and ground-controlled approach procedures. Air traffic controllers may take advanced training in specialized air traffic and radar operations. Those preparing for specialized work in combat or on aircraft carriers must take further training.

Air traffic control supervisors may receive training in managing the operations of an air traffic control center or tower. Training topics include managing personnel, maintaining operational readiness, and establishing and reviewing work procedures.

During their career, air traffic controllers learn supervisory skills through leadership training and job experience. This training continues through the facility supervisor level with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.

TYPICAL CAREER PATH

Timeline

FACILITY SUPERVISOR

Facility supervisors are in charge of air traffic operations at an airfield facility. They:

- **Plan, direct, and organize air traffic control at an airfield**
- **Set air traffic control terminal procedures**
- **Inspect airfields for operational readiness**
- **Prepare air traffic control training programs**

17-20 yrs

SUPERVISOR

Highly qualified air traffic controllers may become supervisor of a tower or radar center. Air traffic supervisors:

- **Supervise a shift in a control tower or radar center**
- **Brief staff on weather, local field conditions, runways to be used, and other situations affecting aircraft**
- **Coordinate air traffic control with other airfields**
- **Inspect runways and airfield facilities**

7-11 yrs

CONTROLLER

As their skills increase, air traffic controllers take on more difficult tasks. Typically, controllers:

- **Conduct instrument flight approaches in bad weather**
- **Conduct radar control of aircraft during ground or in-flight emergencies**
- **Coordinate search and rescue missions with air crews**
- **Give on-the-job training and technical help to new air traffic controllers**

4-6 yrs

APPRENTICE CONTROLLER

After initial job training, apprentice controllers work under the direct supervision of an experienced controller. They:

- **Track air traffic by sight or with radar equipment**
- **Give clearances, weather conditions, and air traffic information to pilots**
- **Contact pilots and give takeoff, approach, and landing instructions**
- **Direct vehicle and aircraft movement on runways and around airfields**
- **Give in-flight emergency help to aircraft**

AIRCRAFT LAUNCH AND RECOVERY SPECIALISTS

NAVY
MARINE CORPS

Takeoffs and landings on an aircraft carrier are far from routine, even in the best weather. As an aircraft launch and recovery specialist, you work on the flight deck operating and maintaining catapults (plane launching devices), arresting gear (devices that slow down landing planes), barricades, and other equipment to launch and land aircraft safely. You begin your career working as an apprentice team member performing duties at designated launch or recovery stations. As your skills increase, you take greater responsibility and repair and overhaul equipment. There are opportunities to advance to crew supervisor and perhaps to flight deck supervisor.

DUTY ASSIGNMENT

Aircraft launch and recovery specialists work on aircraft carriers at sea and at ports of call all over the world. Some launch and recovery specialists also work at advanced based landing fields set up near infantry training sites or combat zones to provide air support to combat troops. When assigned to airfields on land, launch and recovery workers install land based crash barriers and barricades and maintain runway lighting systems. They also operate equipment that helps pilots take off or land on short runways.

RELATED MILITARY OCCUPATIONS

If you are interested in a career as an aircraft launch and recovery specialist, you may also want to consider a career as a flight operations specialist, air traffic controller, or radar and sonar operator. See the *Military Career Guide* for descriptions of these occupations.

Profile: Jim Griffith

Jim Griffith's decision to follow his brothers into the service seemed the best answer to limited job opportunities. He joined the Navy with the idea of becoming an electrician, but his first assignment changed his mind. After basic training, he was assigned to the aircraft carrier USS *Coral Sea*, where he worked on the flight deck with a catapult crew. He enjoyed his work repairing and maintaining the mechanical equipment so much that he asked for formal training in this field. His request was granted, and he went to Philadelphia for classes in becoming a catapult operator.

Jim liked his new job; still, he left the Navy after his 4-year enlistment to go home and get married. Within 3 months, he had reenlisted because, as he puts it, "There were few jobs that offered me a chance to make something of myself." Following reenlistment, Jim spent nearly 2 years as catapult crew leader on the USS *Wasp*, where one of his older brothers was also assigned. He then spent a year in Lakehurst, NJ, as a crew leader testing new parts and newly designed catapult systems.

Jim's next assignment took him to the West Coast and the USS *Bennington*. He was responsible for a crew of 40 men who maintained and operated two catapults. One big job involved supervising work on the catapult system for a major ship overhaul. He also served aboard the USS *Ranger* on several cruises to Vietnam as supervisor of a catapult operation.

Jim was then selected to become an instructor at the Navy's school at Lakehurst. For 4 years, he taught the basics of operating and maintaining catapult systems to 250 students a year. He was also promoted to chief petty officer, the goal he had set for himself when he joined the Navy. Following an assignment on the USS *Roosevelt*, Jim was promoted to flight deck supervisor and served on the USS *Independence* and then the USS *Forrestal*, where he managed a flight deck crew of up to 550 sailors.

For the past several years, Jim has been back at Lakehurst managing the launch and recovery school. Jim enjoys teaching and working with younger people to help them establish themselves in their career. He believes he has made a significant contribution to the Navy. "But then," he says, "the Navy has rewarded me in turn."

CEMENT

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TRAINING

The services provide apprentice launch and recovery specialists with 6 to 18 months of basic and initial job training. It starts with a short course covering the basic elements of aviation, including how planes take off and land. Carrier based personnel take additional courses in operating and maintaining specific types of arresting gear or catapults. These courses also cover hydraulics and the flight deck duties of the launch and recovery specialist. Later in their career, specialists may take additional training to become familiar with a system used in a new assignment. Advanced training is available covering the operation, inspection, and maintenance of different types of catapults, barricades, and arresting gear.

Individuals who work at expeditionary airfields take the same aviation basics course as those working on aircraft carriers. These individuals then receive specialized instruction in installing, inspecting, and operating land based arresting gear and barricades.

During their career, aircraft launch and recovery specialists learn supervisory skills through leadership training and job experience. This training continues through the position of flight deck supervisor with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.

Timeline

TYPICAL CAREER PATH

FLIGHT DECK SUPERVISOR

Flight deck supervisors plan and direct operation, maintenance, and safety programs for all aspects of carrier launch and recovery work, including crash rescue, damage control, aircraft handling, and aviation fueling. Flight deck supervisors:

- Organize, schedule, and evaluate training programs
- Administer long-range maintenance programs and monitor maintenance schedules
- Conduct inspections to ensure that scheduled maintenance has been performed
- Predict requirements for personnel, equipment, and materials
- Review the performance of aircraft handling, crash rescue, and damage control crews

19-20 yrs

CREW SUPERVISOR

Skilled launch and recovery specialists may become crew supervisors. At this level, they:

- Supervise equipment inspections before and after launch and recovery operations
- Give technical advice and help crew members
- Prepare schedules for preventive maintenance
- Examine faulty parts to determine repair or replacement needs
- Help launch and recovery specialists analyze malfunctions and plan corrective action

7-8 yrs

LAUNCH AND RECOVERY SPECIALIST

As their skills increase, launch and recovery specialists perform more difficult tasks. They:

- Perform or direct difficult repairs and machinery and equipment overhauls
- Inspect cables, fittings, and wire-rope sockets
- Prepare weekly preventive maintenance schedules
- Inventory supplies, spare parts, and equipment
- Post changes and additions to maintenance and accounting records

3-4 yrs

APPRENTICE LAUNCH AND RECOVERY SPECIALIST

After initial job training, apprentices work under close supervision at designated launch and recovery work stations. They:

- Inspect equipment before and after launch and recovery operations
- Operate controls to fire catapults, raise and lower blast deflectors, or operate arresting gear
- Direct personnel in aircraft launch hookups
- Perform preventive maintenance and complete maintenance records

This career is not open to women

AIRCRAFT MECHANICS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

The confidence that military flight crews have in their aircraft is a tribute to the mechanics who maintain them. As an aircraft mechanic, you inspect, service, and repair aircraft to keep them airworthy. You begin your career performing routine maintenance and simple repairs under close supervision. As your skills develop, you may be assigned more difficult duties, such as troubleshooting and performing complicated repairs. There are opportunities to advance to shop supervisor and perhaps to supervisor of an entire aircraft maintenance operation.

DUTY ASSIGNMENT

Aircraft mechanics work in aircraft hangars and repair shops on air bases and landing fields or aboard aircraft carriers. They may sometimes work outside on runway flight lines and carrier flight decks. Most aircraft mechanics are assigned to aircraft maintenance units in the United States. However, since the services have military airfields throughout the world and carriers at sea, there is good opportunity for overseas or sea duty assignment.

ADVANCEMENT

Wherever aircraft land or are based, aircraft mechanics are there to keep them safe and ready to fly. Because even a small error may cause a crash, aircraft mechanics must be accurate and thorough in their work. They must have the technical skill to diagnose and fix problems that often affect more than one system of the aircraft. The complexity of aircraft systems and the precision needed to make repairs and adjustments means that mechanics must rely heavily on technical manuals and guides. Aircraft mechanics must be able to find information in the manuals, interpret diagrams, and follow the written work procedures precisely. After mastering the basic skills, the willingness to assume leadership roles helps mechanics advance through the supervisory levels of this career.

Profile: Bill Roche

When he graduated from high school, Bill Roche knew there was not much of a future in his hometown. So, at 17, he got his parents' permission to join the Air Force. "I wanted to see different places," he says. After 23 years and 15 different locations, travel is still one of the things he likes most about his career. Bill has lived in Canada, England, Holland, Vietnam, Hawaii, and all over the United States.

Being mechanically inclined, he had always enjoyed working on cars. Bill asked for aircraft mechanics. After basic training, he went to aircraft mechanic's school and was assigned to Andrews Air Force Base (AFB) near Washington, DC. There he also completed an additional field training course on the Air Force T-33 aircraft. After 2 years of performing unscheduled maintenance (pilot-reported problems), Bill went to Goose Bay, Canada, for another field training course on the F-102 aircraft.

Bill returned to the United States on an assignment to Scott AFB, IL, to work on the T-39 Sabreliner. He went on flying status as the chief mechanic and flew around the country. He was also responsible for making or supervising repairs. Bill decided at this time to make his career in the military. Having just married, he saw the Air Force as a chance to get ahead. But as Bill says, "It was having a job I really liked and being able to fly as well that really sold me."

Bill was promoted to staff sergeant and spent a year in Vietnam. In his first supervisory job, he coordinated flight line maintenance for a fighter squadron. Then, 2 years after his return to the States, he was selected as an instructor in aircraft mechanics. During this time, he earned another promotion and volunteered to go to Europe. Although most of his 4 years was spent in England and Holland, he and his family were able to travel all over Europe.

Bill and his family had been home for only a year when he volunteered to go to Hawaii. He was promoted there to senior manager and served as the Pacific Air Force Command manager for several types of aircraft, ensuring that materials and supplies reached Air Force units in the Pacific. Bill recently returned to the mainland as assistant manager of a maintenance unit capable of supporting F-15 fighters anywhere in the world.

SPECIALIZATION

Typically, mechanics specialize in a single type of aircraft, such as fighter planes, bombers, cargo or passenger planes, or helicopters. Airplane mechanics specializing on planes often further specialize in particular parts or systems, such as aircraft engines (jet or propeller), airframes (aircraft structural parts), pneudraulic systems, which are a combination of pneumatic (air) and hydraulic (fluid) pressure systems, or aircraft landing gear systems. Depending on the service, a helicopter mechanic may specialize in one system or work on the entire aircraft.

TRAINING

The services provide apprentice aircraft mechanics with 6 to 13 months of basic and initial job training. It includes instruction in general aviation maintenance practices and procedures. This training stresses practical experience as a way of learning to identify aircraft components and systems, what they do, and how they work. It also covers the use of tools, test equipment, and automated performance analyzers. Additional training covers the skills needed for individual specialties. Engine mechanics learn procedures for inspecting, disassembling, and repairing or replacing engines. Airframe mechanics learn to repair aluminum, steel, titanium, plastic, and fiberglass airframes and coverings. Apprentice mechanics also get training on the type of aircraft they will work on during their first assignment. Throughout their career, aircraft mechanics may receive training on many different aircraft.

Advanced training is available for mechanics in troubleshooting techniques, certification training for inspectors, and technical training on specific aircraft systems. During their career, aircraft mechanics learn supervisory skills through leadership training and job experience. This training continues through the level of aircraft maintenance supervisor with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in mechanics, you may also want to consider a career as an automobile mechanic, automotive body repairer, engine mechanic, heavy equipment mechanic, marine engine mechanic, or powerhouse mechanic. See the Vehicle and Machinery Mechanic Occupations cluster in the *Military Career Guide* for descriptions of these and other similar occupations.

TYPICAL CAREER PATH

Timeline

AIRCRAFT MAINTENANCE SUPERVISOR

At this level, aircraft mechanics are in charge of a large aircraft maintenance and repair facility. They:

- Plan and direct repair, inspection, maintenance, service, and modification of aircraft
- Analyze reports and meet with supervisors to find and resolve bottlenecks
- Develop training and safety program
- Prepare technical, personnel, and administrative reports

19-21 yrs

SHOP SUPERVISOR

Highly skilled mechanics become shop supervisors in charge of maintenance and repair for a specific type of aircraft. They:

- Develop standard operating procedures
- Conduct or direct on-the-job training programs
- Assign and reassign personnel to handle increased work loads and changing work schedules
- Collect data and prepare production and status reports

8-10 yrs

MECHANIC

Aircraft mechanics perform more complex repairs and assist other mechanics. At this level, they:

- Help apprentice mechanics identify malfunctions and fix problems
- Perform complicated or unusual tests using special test equipment
- Analyze frequently occurring malfunctions and determine changes that should be made to procedures or equipment
- Disassemble aircraft engines and repair or replace valves, cylinders, and turbine blades

4-5 yrs

APPRENTICE AIRCRAFT MECHANIC

After initial job training, new aircraft mechanics work under close supervision performing routine repair and maintenance duties. Typically, apprentice mechanics:

- Repair airframe parts using drills, rivet guns, welding rigs, and sheet metal machines
- Tighten connections on air and fluid lines and hoses using hand tools
- Flush crankcases, clean screens, and grease moving parts to perform routine aircraft servicing
- Record service, maintenance, and repairs in maintenance log records

best copy available

AUTOMOBILE MECHANICS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Automobile mechanics repair all types of motor vehicles, from basic jeeps to small attack vehicles. As an automobile mechanic, you service and repair all parts of a vehicle, including engines, transmissions, and fuel and electrical systems. You begin your career doing simple repairs and servicing on one type of vehicle. As your skills develop, you perform more challenging duties, such as overhauling engines and troubleshooting difficult problems. There are opportunities to advance to shop supervisor and perhaps to vehicle repair supervisor in charge of an entire automotive maintenance organization.

DUTY ASSIGNMENT

Automobile mechanics usually work in auto repair shops and garages, but may do some outdoor work while making repairs in the field. Mechanics also work in small- to medium-sized motor pools or in larger maintenance and repair centers. Automobile repair units are usually part of a mechanical maintenance organization that services all types of vehicles, including fire trucks, construction equipment, and tanks. Work in these organizations is usually organized by the type(s) of vehicle. Most auto mechanics are assigned to military bases in the United States; however, since the services have automotive vehicles all over the world, there is good opportunity for overseas assignment.

RELATED MILITARY OCCUPATIONS

If you are interested in mechanics, you may also want to consider a career as an engine mechanic, automotive body repairer, heavy equipment mechanic, aircraft mechanic, marine engine mechanic, or powerhouse mechanic. See the Vehicle and Machinery Mechanic Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

Profile: David Jones

When Gunnery Sergeant David Jones was a senior in high school, he knew he didn't want to go to college, but he wasn't sure what he wanted to do. So David enlisted in the Marine Corps. Joining the Marines offered him a break from the routine he saw in civilian life.

David entered the infantry even though he knew it was not what he wanted as a career. After basic and initial infantry training, he became a rifleman and was sent overseas to Okinawa, Japan. It was then that he found what he really wanted to do. On many marches, David saw trucks parked by the side of the road. When he asked why the trucks were not being used, he was told that they were deadlined (not working), waiting for repair. He was frustrated because he wanted to be able to fix them. After 4 years in the infantry and reaching the rank of sergeant, he decided to reenlist. At the same time, he asked to switch his occupation to motor transport mechanic.

To qualify for his new occupation, David took the basic automotive maintenance course. He then began troubleshooting problems in jeeps, trucks, and trailers at Camp LeJeune, NC. David also used his training to help fix his friends' cars. In fact, they started calling him Jones, M.D. (for Mechanical Doctor). Because of his good work, David was promoted to shop chief, responsible for supervising several mechanics.

After 2 years at Camp Lejeune as a mechanic and another promotion, David went back to Okinawa as a maintenance chief. He scheduled all vehicles for maintenance and ensured the safety of the shop. Even though he was overseas, he was able to play his favorite sports, tennis and football, on base. One year later, he moved to the Marine Corps Logistics Base in Albany, GA, as an inspector. He traveled to all the Reserve units from Texas to the East Coast inspecting vehicles. During his 3 years in Albany, David took the motor transport staff noncommissioned officer (NCO) course. On the series of tests he took there, he achieved the highest individual average in the school's history and graduated with honors. David was recently promoted to gunnery sergeant and reassigned to Marine Corps Headquarters.

VANCEMENT

lechanics must know their icles. They need to have the nnical skills needed to find out at is wrong and fix it. They t be able to figure out what is ng with an automobile or k from driver descriptions, ten work orders, or visual pection of a running vehicle. od vision, sharp hearing, and d-eye coordination are ded to spot minor flaws, de the sounds of faulty opera and make precise adjust nts. Mechanics must also be e to disassemble, inspect, l repair the major systems h as fuel, brake, transmis n, and electrical systems.

fter mastering the basic s, the willingness to assume dership roles helps automo mechanics advance through supervisory levels of this eer. Knowing about many dif ent types of vehicles, includ trucks and heavy equipment, an asset for advancement to icle repair supervisor. These ior managers are respon e for the repair and mainte nce of all types of vehicles.

ECIALIZATION

Depending on their assign nt, automobile mechanics en develop specialized skills working on one or more types vehicles. A mechanic might ecialize, for example, in re ring jeeps, autos, and light cks, wrecker trucks and forklift uipment, or aircraft towing and und support equipment.

TRAINING

The services provide apprentice auto mechanics with 6 to 13 months of basic and initial job training. It combines classroom and on-the-job instruction. Classroom instruction emphasizes ship procedures, basic repairs, and the use of manuals and repair diagrams. Experienced mechanics provide on-the-job training on a one-to-one basis. This training covers the use of hand tools, power tools, and test equipment and common procedures for repairing brakes, transmissions, carburetors, and fuel and electrical systems. Depending on the first job assignment, additional training may be given on a specific type of vehicle. Throughout their career, auto mechanics may receive specialized training on many different vehicles. Advanced training is also available for mechanics to sharpen their troubleshooting and fault isolation skills. Shop supervisors may take courses that cover the latest auto and vehicle maintenance techniques.

During their career, automobile mechanics learn supervisory skills through leadership training and job experience. This training continues through the vehicle repair supervisor level with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.

Timeline

TYPICAL CAREER PATH

VEHICLE REPAIR SUPERVISOR

Successful shop supervisors may advance to direct repair operations for many different vehicles. At this level, they:

- Coordinate the activities of a major vehicle repair facility
- Identify ways to reduce costs for more effective programs
- Monitor repair orders for recurring problems
- Monitor the use of parts and supplies
- Ensure that proper records are kept on vehicles and shop personnel

SHOP SUPERVISOR

Qualified mechanics who show leadership potential may advance to supervisor of a repair shop. They:

- Give technical help and advice in troubleshooting difficult problems
- Conduct training on the newest maintenance procedures and techniques
- Design and layout work stations and equipment
- Assign and schedule work to meet deadlines
- Inspect and approve repaired vehicles

8-10
yrs

MECHANIC

By developing their skills and becoming familiar with different vehicles, mechanics take on troubleshooting and more difficult repairs. They:

- Isolate the causes of vehicle problems and determine repair needs
- Conduct on-the-job training for new mechanics in how to use tools and diagnostic test equipment
- Inspect alignments and adjustments of transmissions and electrical systems
- Prepare vehicle maintenance schedules
- Perform major repairs and engine overhauls

4-5
yrs

APPRENTICE MECHANIC

After initial job training, apprentice mechanics are assigned to repair shops, where they perform routine maintenance and repairs. At this level, they:

- Perform service on vehicles, following maintenance specifications
- Test vehicles for electrical problems and replace batteries and voltage regulators as needed
- Inspect and replace worn belts, hoses, and wiring
- Change oil and tune engines
- Repair or replace parts as directed on repair orders or by senior mechanics

BOILER TECHNICIANS

NAVY
COAST GUARD

Boiler technicians run the power plants that turn turbines and generators to drive ships. As a boiler technician, you run and maintain boilers and auxiliary equipment, such as pumps, turbines, and compressors. You begin your career operating and maintaining boilers under close supervision. As you gain experience, you take on more responsible duties, such as inspecting boilers and turbines and testing and setting safety valves. There are opportunities to advance to fireroom (boiler room) supervisor and perhaps to engineering assistant.

DUTY ASSIGNMENT

Boiler technicians are usually assigned to a ship's engineering department, where they work in the fireroom. Shipboard duty involves work anywhere on the high seas and at the ship's home port. Boiler technicians may also be assigned to shore duty to assist crews with repairs while ships are in port. While on shore duty, boiler technicians may also work in base power plants.

ADVANCEMENT

Since boilers are a vital part of the ship's power plant, boiler technicians must be alert to report unusual water levels and pressure readings on boiler gauges. A good performance record in standing watch (operating and monitoring the boiler operations while the ship is under way) is essential. Boiler technicians must learn preventive maintenance on all parts of the ship's propulsion system, including boilers, turbines, and auxiliary equipment. They also need to develop the technical skills to find the cause of an equipment malfunction and fix it. After mastering the basic skills, the willingness to assume leadership roles helps boiler technicians advance through the supervisory levels of this career.

Profile: Mike Gaynor

Mike Gaynor was living in an orphanage in Georgia when he decided to join the Navy. He had no job skills. "I saw the Navy as a place to learn and a way to travel," he says. He enlisted under the delayed entry program while he was still in high school and entered the Navy the following winter.

Mike's initial job training taught him the basics of operating a boiler. His first assignment was on the *KK Vesole*, a destroyer with a manual boiler system. He started as a messenger, learning to take pressure and temperature readings. As a burnerman, the next step, he ensured that the boiler pressure and fuel pressure were up. As a checkman, he maintained the water level in the boiler. Finally, he became the top watch in charge of his boiler section. Mike has repeated this process several times during his career. Since each ship's boiler system is different, he has had to learn a new system each time he was assigned to a new ship.

In his first assignment, Mike was promoted to petty officer third class. Having mastered a manual boiler system, he then went to school for advanced training in repairing and operating automatic combustion control machinery. Mike was assigned to shore duty at the San Diego Naval Station, CA. He worked in several shops repairing and checking valves and other parts. During this time, he was promoted to petty officer second class.

Mike then spent 4 years assigned to the destroyer USS *Blandy*. He worked his way up to top watch and also became engineering officer of the watch. Mike considers this his best assignment so far. "We were like a close knit family," he says. On this tour, Mike made petty officer first class and got to see Europe, Africa, and the Middle East. Mike advanced to work center supervisor on his next ship, the aircraft carrier USS *America*. He was in charge of 25 boiler technicians and the two boilers and their equipment. He was also the top watch and chief of the watch when the ship was in port.

Now Mike is assigned to the Washington Navy Yard, DC, developing task inventories and occupational standards for Navy enlisted careers. Mike has enjoyed his time on board ship. "The hours can be long, I've worked hard," he says, "but I've learned a lot and I've been everywhere."

RAINING

The services provide appren
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anual and automated boilers
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[illegible] boiler technicians learn supervisory skills through leadership training and job experience. This training continues through the engineering assistant level with courses in management and administration. Typically, these courses address new technical references, personnel management, maintenance documentation, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in working with your hands and with machines, you may also want to consider a career in the closely related occupation of marine engine mechanic. Other related occupations—machinist and power plant operator—can be found in the Machine Operator and Precision Work Occupations cluster in the *Military Career Guide*.

TYPICAL CAREER PATH

Timeline

ENGINEERING ASSISTANT

Engineering assistants manage and organize the operation and maintenance activities of a ship's engineering department. They:

- Administer long-range training and maintenance management programs
- Advise engineering officers of vessel operational limitations when equipment is being repaired
- Assist in managing the ship's engineering department
- Review equipment, material, and personnel records to predict future requirements
- Supervise fireroom inspection and decide on any needed corrections

10-20 yrs

FIREROOM SUPERVISOR

Experienced boiler technicians may advance to fireroom supervisor. At this level, they:

- Oversee all maintenance and repair
- Conduct or assist in on-the-job training
- Give technical advice and help
- Prepare maintenance schedules and reports, noting the progress of maintenance and repair work

6-8 yrs

BOILER TECHNICIAN

As apprentice boiler technicians' skills increase, they take on more responsible duties. Boiler technicians:

- Inspect boilers, turbines, steam pipes, and water feed
- Instruct personnel in approved procedures and the use of engineering and technical manuals
- Help apprentice technicians install boiler furnace brickwork and insulation
- Adjust water level and pressure indicator gauges
- Test and set or overhaul safety valves and pressure relief devices

3-4 yrs

APPRENTICE BOILER TECHNICIAN

After initial job training, apprentice boiler technicians:

- Operate and perform preventive maintenance on boilers
- Disassemble, clean, grease, and lubricate valves, pumps, turbines, boilers, boiler fittings, and forced-air blowers
- Repair and align air, fuel, and water piping systems
- Test fuels, water, and lubricating oils for quality
- Stand watches and log pressure readings, being alert for abnormal operations and emergency conditions

CARPENTERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Carpenters help translate blueprints and drawings into finished structures. As a carpenter, you may make cabinets, lay floors, roof buildings, erect and finish walls, or build piers, bunkers, and other timber structures. You begin your career performing rough carpentry, such as framing walls and performing simple repairs. As you develop your skills, you may take on more responsibility and more difficult tasks. There are opportunities to advance to trades supervisor and perhaps to trades superintendent.

DUTY ASSIGNMENT

Most carpenters work on military bases, but the actual work site depends on the job. Carpenters may work in woodworking shops, inside a new building, or outdoors constructing temporary buildings and timber structures. Most carpenters work at large military bases in the United States, but there is also a good opportunity for overseas assignment maintaining buildings on military installations or working at temporary advanced base sites used in training exercises or combat.

ADVANCEMENT

Carpenters are skilled craftspersons who learn and must master the use of tools of the trade: saws, squares, hammers, and power tools. They must also perform many different construction tasks, such as painting, roofing, masonry, and framing walls and floors. Carpenters are judged by the quality of their work and their ability to make decisions on how to complete a job. In order to advance, carpenters must be able to read work orders and estimate the time and materials needed to complete a job. After mastering the many different carpentry skills, the willingness to assume leadership roles helps carpenters advance through the supervisory levels of this career.

Profile: Frank Dalton

Frank Dalton worked in construction during his summer breaks from school. He found that he liked working with his hands. So when he joined the Air Force, he asked to sign on as a structural technician. Because of his previous experience, he was able to take a test that allowed him to bypass initial training and go directly to his first duty assignment after basic training.

Frank started as a carpenter's apprentice at Maxwell Air Force Base (AFB), AL. From there, he was sent to Vietnam, where he renovated buildings and built roads, shelters, and maintenance hangars. Looking back, he feels that this was one of his most interesting experiences in the military. "I really got to see how the people there lived." Back in the States at Seymour Johnson AFB, NC, he performed minor construction and maintenance, such as paneling, patching roofs, and replacing floor tiles. With this experience behind him, Frank then transferred to the planning section, where he learned to plan and construct buildings.

Frank's next assignments placed him as crew leader. At Keesler AFB, MS, he was promoted to staff sergeant and led a crew of carpenters who carried out maintenance for the base. At Osan AFB, Korea, he was in charge of a crew that built a hobby shop, a squadron compound, a recreation center, and a communications facility. He then became the noncommissioned officer in charge (NCOIC) of a 3-person shop at the North Charleston Air Force Station, SC. "We did everything: roofing, plumbing, painting, maintenance, and renovation."

Promoted to technical sergeant, Frank became the NCOIC of carpentry shops, first at Homestead AFB and then at Hurlburt Field in Florida. At Homestead, his shop renovated the officers' open mess and the headquarters building, an improvement that won the base an award as the "Best Base in Tactical Air Command of the Air Force." At Hurlburt Field, his crew constructed 11 buildings, renovated the base marina, and rebuilt a Boy Scout camp as a community relations project. Frank is now on temporary duty assignment at Myrtle Beach AFB, SC, where his crew is moving and reconstructing an old hangar.

Frank has found his career satisfying. As he puts it, "I like seeing the fruits of my labor."

IING

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During their career, carpenters learn supervisory skills through leadership training and job experience. This training continues through the trades superintendent level with courses in management and administration. Typically these courses address budgeting, personnel management, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in construction work, you may also want to consider a career as a bricklayer and concrete mason, building electrician, ironworker, or plumber and pipefitter. See the Construction Occupations cluster in the *Military Career Guide* for descriptions of these and other construction occupations.

TYPICAL CAREER PATH

Timeline

TRADES SUPERINTENDENT

Trades superintendents supervise large construction and maintenance units. At this level, they:

- Plan personnel and equipment needs for construction and repair jobs
- Set up and carry out quality control standards and work procedures
- Plan work priorities and timetables
- Direct inspections of completed systems, structures, and facilities
- Develop training programs for construction workers and equipment operators

19-20 yrs

TRADES SUPERVISOR

Crew leaders who show skill and motivation may become trades supervisors who oversee the work of several construction trades, including electricians, plumbers, and other construction workers. They:

- Help plan repair and construction projects
- Coordinate construction and support unit operations
- Inspect completed or nearly completed projects
- Carry out training programs and assign trainers for new workers
- Prepare technical, work progress, and cost control records and reports

8-12 yrs

CREW LEADER

Skilled carpenters who show leadership ability may advance to lead a carpentry crew. At this point, they:

- Assign jobs and help in work start-up
- Train new carpenters in tool and equipment use and carpentry operations
- Help in on-site construction and carpentry shop inspections
- Interpret drawings and blueprints to plan and lay out work
- Keep records of the time and materials spent on projects and predict future needs

4-6 yrs

CARPENTER

After initial training, carpenters are assigned to construction and maintenance units. Working under close supervision, they:

- Repair or build piers, timber bridges, bunkers, or temporary structures
- Make forms for pouring concrete and erect wood framing for buildings
- Repair floors and roofs using wood, tile, asphalt, and shingles
- Hang sheetrock or drywall to finish interior walls and ceilings
- Repair and install doors, windows, and cabinets and install locks and doorknobs

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COMPUTER PROGRAMMERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

A computer can solve problems in fractions of a second and store vast amounts of information, but it takes a programmer to make it work. As a programmer, you communicate with the computer using language it understands. You begin your career by writing and testing simple programs. As you gain experience, you learn to apply your skills to more difficult programming tasks. There are opportunities to advance to programming supervisor and perhaps to supervisor of an entire data processing facility.

DUTY ASSIGNMENT

Most programmers work on advanced computer equipment in large data processing centers. These facilities are usually in office settings, but centers may also be located in missile facilities, space command centers, or aboard ships. While there is some opportunity for overseas assignment, most computer programmers work at data processing centers in the United States.

ADVANCEMENT

Computer programmers need a high level of creativity and intelligence to write and test complex computer programs. Programmers must also have good math skills and the ability to think logically to write the codes that instruct computers. Since the smallest mistake can cause a program to fail, programmers must pay close attention to detail while coding and debugging programs. Keeping up on constantly changing computer technology and being able to work with many different computer systems are important for advancement.

After mastering the basic programming skills, the willingness to assume leadership roles helps programmers advance through the supervisory levels of this career. A familiarity with the entire range of computer operations (for example, telecommunications, data entry, and specialized equipment) is important to advance to the level of data processing supervisor. Data processing supervisors manage entire computer centers, including programming and computer operations.

Profile: Juan Delgado

When Juan Delgado joined the Army, he had been out of high school for 6 years. During this time, he had gone to college for 1 1/2 years and had served in the National Guard. "But," he says, "I felt my life was going nowhere. I needed something to get me started." So Juan decided to enlist.

Juan did not become a programmer analyst immediately. During his first 4-year enlistment, he served as a cannon crewman, assistant gunner, and forward observer in the artillery at Fort Campbell, KY, and Camp Essayons, South Korea, where he moved up through the ranks to Sergeant. When the time came for Juan to reenlist, he looked through the Army careers catalogue. "The computer career field appealed to him most, so he asked permission to reenlist as a programmer analyst. His request was granted, and the Army sent him to computer school to learn his new job.

At the 4-month computer school at Fort Benjamin Harrison, IN, Juan learned COBOL, systems analysis, problem solving, and the Army's job control language. He enjoyed the challenge of learning the latest technology.

Juan's first assignment in his new career field was at the Army's data processing center in Yongsan, Korea. For 2 1/2 years, Juan was the analyst in charge of the Standard Army Multi Command Management Information Systems (STAMMIS). He also programmed in COBOL, worked with the Army's job control language, and, while analyzing problems and reporting them, learned the basics of technical writing. During this tour, he was promoted to staff sergeant.

From Korea, Juan went to his present assignment at the Army's information systems engineering command. Working specifically in quality assurance, he monitors the development of new computer systems and gives technical guidance. He also writes documentation, such as user's guides.

Juan enjoys following the developments of new technology in hardware, especially in microcomputers. "Programming is so complex no one can know it all," he says. "I like interacting with other programmer analysts to share knowledge."

INING

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ceive training in special programming languages. This training covers methods for writing input-output routines (data entry and reports) and subprogram call and return statements (special instructions for repetitive program calculations). Programmers often receive training in new computer systems directly from the manufacturer.

During their career, computer programmers learn supervisory skills through leadership training and job experience. This training continues through the level of data processing supervisor with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in working with computers, you may also want to consider a career as a computer systems analyst, computer operator, or data processing equipment repairer. See the Administrative Occupations cluster, the Engineering, Science, and Technical Occupations cluster, and the Electronic and Electrical Equipment Repair Occupations cluster in the *Military Career Guide* for descriptions of these and other related military occupations.

TYPICAL CAREER PATH

Timeline

DATA PROCESSING SUPERVISOR

Data processing supervisors may manage an entire data processing organization, including programmers and computer operators. They:

- **Plan and direct computer operations and programming**
- **Assign projects, set priorities, and monitor work load**
- **Develop budgets, track expenses, and predict equipment requirements**
- **Develop staff training programs**

18-21 yrs

PROGRAMMING SUPERVISOR

Skilled programmer/analysts who show leadership ability may advance to programming supervisor. At this level, they:

- **Assign staff and organize teams for major projects**
- **Help programming staff with technical problems**
- **Review and approve proposed system and program designs**
- **Train or direct the training of new programmers**
- **Check user requests and set up project budgets and deadlines**

9-12 yrs

PROGRAMMER/ANALYST

Experienced programmers may advance to become programmer/analysts who design computer applications for military organizations. Programmer/analysts:

- **Meet with supervisors and system users to determine system objectives**
- **Define inputs, outputs, and data elements for proposed systems**
- **Write system design and programmer instructions**
- **Test and debug programs using test data and analysis techniques**
- **Put new programs and systems into operation**

4-6 yrs

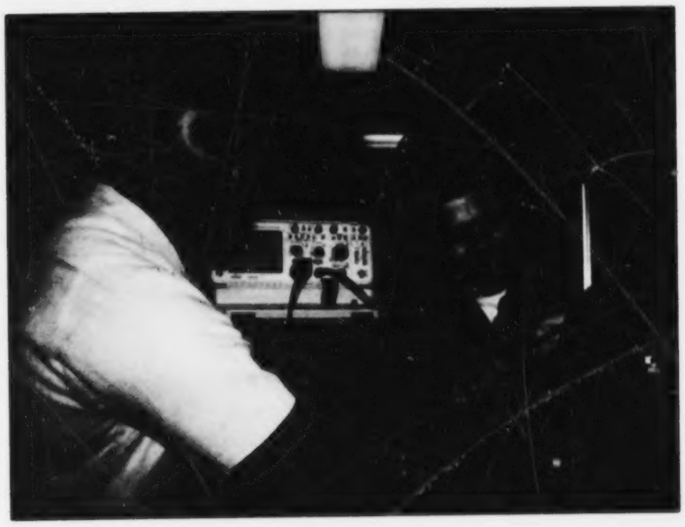
PROGRAMMER

After initial job training, programmers work with more experienced staff developing routine programs. Programmers:

- **Write simple programs using standard, prewritten program segments**
- **Enter programs using computer terminal input devices**
- **Prepare documentation for users, computer operators, and other programmers**
- **Code programs into computer language to perform needed actions**
- **Help prepare, edit, and test programs**

ELECTRONIC INSTRUMENT REPAIRERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD



Profile: Catherine Glidden

Petty Officer First Class Catherine Glidden joined the Navy for travel and an education. The Navy recommended advanced electronics to her because she scored highest in that area on the ASVAB.

Catherine took initial job training courses in electricity and electronics, intermediate avionics, advanced electronics, and ARN52 (navigational gear). She then went on her first duty assignment to Guantanamo, Cuba, where she tested, maintained, and repaired communication navigation gear. There she met her future husband, also an aviation electronics technician in the Navy.

Catherine's next assignment was in Rota, Spain, where she worked on A-3 and P-3 aircraft and maintained electronic countermeasures gear for VQ-2 (fleet air reconnaissance) squadron planes. She worked on control boxes, switching units, and antennae displays. She was also an inspector responsible for checking repaired gear and reviewing the work of others. "When I was in Spain, I bought a Eurail pass and toured Norway, Belgium, Sweden, Holland, France, Germany, Austria, and England," says Catherine.

After Spain, Catherine trained as an instructor and was then assigned to the Norfolk Naval Air Station, VA, for further on-the-job training. She received her certification, and now, with only 11 years in the Navy, she teaches electronic assembly repair courses (basic and advanced), a supervisor's course, and an instructor's certification course. She also travels to training sites in the southeastern United States to recertify sites and instructors. She enjoys teaching. As she says, "Before, I learned a lot through school and strengthened my technical skills. Now, as an instructor, I'm strengthening my communications skills."

Catherine was not only the first female instructor but also the first woman at her present detachment. She is one of only 10 aviation electronics technicians and the only female aviation electronics technician ever to have reached the "A" level of certification ("A" is the highest of six levels). Catherine has no problem being first. As she says, "I strive to do the best I can in every job I do."

Precise electronic instruments are vital in military communications, aircraft navigation, and weapons targeting. They are also used in medical research, weather forecasting, and electronic warfare. As an electronic instrument repairer, you diagnose and repair malfunctions on one type of electronic instrument. You begin your career performing routine maintenance and repair on a single instrument. As you gain experience and skill, you may advance to work on more than one instrument, doing more complicated repairs and helping others solve complex problems. There are opportunities to advance to shop supervisor and perhaps to electronic maintenance superintendent.

DUTY ASSIGNMENT

Electronic instrument repairers work in electronic repair shops all over the world. The military uses electronic devices in all areas, so repairers are found working aboard ships or aircraft and at most military installations. The instruments that repairers learn to fix may determine their duty assignments. For example, repairers who work on flight control instruments are usually assigned to the electronics section of an aircraft squadron or aircraft maintenance unit. Repairers who work on biomedical equipment (used in medical testing and research) are usually stationed at large medical facilities.

ADVANCEMENT

Electronic instrument repairers diagnose problems and make repairs to state-of-the-art electronic instruments. To do this, they must understand the electronic principles behind the workings of highly technical equipment. They also need skills in reading schematic diagrams and using test instruments to find faulty parts. To advance, repairers must develop the analytical skills needed to solve complex repair problems and expand their knowledge of related electronic equipment. After mastering the basic skills, the willingness to assume leadership roles helps electronic instrument repairers advance through the supervisory levels of this career.

ALIZATION

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s. During on-the-job
, repairers learn how to

inspect, maintain, and perform simple, routine repairs on electronic instruments. Advanced classroom training for senior repairers covers advanced electronics, troubleshooting techniques, and new repair procedures.

During their career, electronic instrument repairers learn supervisory skills through leadership training and job experience. This training continues through the level of electronic maintenance superintendent with courses in management and administration. Typically, these courses address budgeting, personnel management, repair shop operations, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in electronic instrument repair, you may also want to consider a career as a radio equipment repairer, data processing equipment repairer, or electronic weapons systems repairer. See the Electronic and Electrical Equipment Repair Occupations cluster in the *Military Career Guide* for descriptions of these and other related military occupations.

TYPICAL CAREER PATH

Timeline

ELECTRONIC MAINTENANCE SUPERINTENDENT

Highly qualified shop supervisors may advance to plan and manage electronic systems maintenance facilities. They:

- Plan for needed personnel, equipment, parts, and supplies
- Set up quality control guidelines and maintenance and repair standards
- Conduct safety and quality control inspections
- Develop and write technical and administrative reports and orders
- Develop training programs and procedures

19-21 yrs

SHOP SUPERVISOR

Skilled instrument repairers who show leadership ability may become supervisor of an electronic repair shop. At this level, they:

- Schedule and make work assignments
- Coordinate repair and support activities to meet work deadlines
- Give technical guidance in electronic system maintenance and repair
- Inspect completed repairs
- Conduct training programs and assign trainers for new repairers

10-13 yrs

SENIOR REPAIRER

As their skills increase, electronic instrument repairers take on more responsibility and perform more complicated repairs. Senior repairers:

- Set up and run electronic testing equipment and machines
- Align and calibrate (adjust) testing equipment and instruments
- Interpret diagrams and use troubleshooting techniques to find faulty parts or wiring
- Test repaired instruments and systems using probes and oscilloscopes (devices that measure variations in electrical current)
- Replace faulty parts, such as loose wires and printed circuit boards (prewired electrical circuits)

4-8 yrs

ELECTRONIC INSTRUMENT REPAIRER

After initial job training, electronic instrument repairers perform routine maintenance and simple repairs on electronic instruments. Working under close supervision, they:

- Use wiring diagrams to find faulty parts and test electronic instrument components (parts)
- Check for faulty wiring and connections using probes and other test instruments
- Replace parts using common and special hand tools
- Repair printed circuits and electric connectors using precision soldering tools
- Clean and maintain electronic testing equipment and instruments

ELECTRONIC WEAPONS SYSTEMS REPAIRERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Profile: Fred Quincy

Master Sergeant Fred Quincy sees himself and the other airborne electronic weapons systems repairers as a "special breed." They like to work independently, and they enjoy a challenge. Even though they may work on only a few systems in their career, they are constantly learning. As Fred says, "We never see the same problem twice."

For his first 11 years in the Army, Fred worked mainly on one weapon system: the Chaparral. His training on this system began soon after he was drafted. During a series of assignments in the United States and Germany, he advanced from technician to assistant Chaparral system mechanic to senior mechanic. He was also promoted through the ranks to staff sergeant. As senior mechanic, he reported to the Commander on weapon status and supervised training in maintenance and troubleshooting. He also monitored the stock of weapons and made sure that forms and the log book were kept up to date. In one assignment, he was the noncommissioned officer in charge (NCOIC) of projects to prepare a directory for training and to develop a mechanic's manual for the Chaparral system.

At this point in his career, Fred felt that he needed to get experience in another system, so he requested training in the Vulcan weapon system. He also requested parachute training, something he had always wanted to do. Both requests were granted. Fred is proud of the "wings" on his uniform that show that he is parachute qualified. He earned them when he was 32 years old, 12 years after he was first drafted.

Fred spent the next several years as a senior Vulcan mechanic. Now, with 16 years of Army experience behind him, he is at Fort Bragg, NC, with the 82nd Airborne, a rapid deployment force. He is maintenance control NCOIC and yard master in charge of all missile support for the division. He supervises over 130 men and controls the work flow of jobs on several electronic weapons systems. Since the division must be ready to deploy at a moment's notice, he and his crew ensure that the electronic weapons are always ready to go.

Most modern weapons—from ballistic missiles to field artillery—have electronic parts. As an electronic weapons systems repairer, you perform electrical, mechanical, and electronic repairs on one type of weapons system. You begin your career performing maintenance and repairs under close supervision. As you gain experience and skill, you work more independently and perform more complicated repairs. There are opportunities to advance to shop supervisor and perhaps to maintenance superintendent.

DUTY ASSIGNMENT

Electronic weapons systems repairers work in specialized maintenance and repair units. These units may be part of the infantry, the artillery, an air squadron, or a ship's crew. Repairs are generally performed in specially equipped workshops, but, depending on the type of weapon, repairers may also work in aircraft hangars, missile silos, or outdoors to inspect, remove, and reinstall electronic parts. Electronic weapons systems repairers are assigned wherever military weapons are found. There is good opportunity for overseas assignment.

ADVANCEMENT

Modern weapons systems are complex, with electronic guidance and control modules as well as mechanical and electrical parts. To find and fix a problem, repairers must understand how all these parts work together. They need to be able to follow maintenance and repair guides precisely and know how to use special electronic test instruments. They must become skilled at working with hand tools to adjust mechanical parts and replace defective wiring. To advance, repairers must develop the analytical skills needed to diagnose the cause of system failure. After mastering the basic skills, the willingness to assume leadership roles helps electronic weapons systems repairers advance through the supervisory levels of this career.

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visors emphasizes using
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enance and repair. Early in
career, repairers typically
to the classroom for ad

vanced training. These courses help them sharpen their troubleshooting skills and learn maintenance and repair procedures for replacement systems or major equipment modifications. In some cases, repairers return to the classroom for training in other weapons systems.

During their career, repairers learn supervisory skills through leadership training and job experience. This training continues through the maintenance superintendent level with courses in management and administration. Typically, these courses address budgeting, personnel management, repair shop operations, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in electronic and electrical equipment repair, you may also want to consider a career as a radar and sonar equipment repairer, aircraft electrician, ship electrician, electronic instrument repairer, or data processing equipment repairer. See the Electronic and Electrical Equipment Repair Occupations cluster in the *Military Career Guide* for descriptions of these and other related military occupations.

Timeline

TYPICAL CAREER PATH

MAINTENANCE SUPERINTENDENT

Highly qualified shop supervisors may advance to manage electronic weapons systems maintenance units. They:

- Develop training programs and set training priorities
- Help officers plan for maintenance unit personnel and material needs
- Set work priorities and coordinate maintenance and support unit activities
- Develop quality control procedures and conduct maintenance inspections
- Oversee the preparation of inspection reports and personnel and technical records

18-20 yrs

SHOP SUPERVISOR

Experienced repairers who show leadership ability may become shop supervisor in an electronic maintenance unit. At this level, they:

- Schedule and make work assignments
- Inspect repaired electronic weapons systems
- Review maintenance and repair logs for accuracy
- Give technical assistance to shop personnel solving malfunctions in complex weapons systems
- Assign trainers to instruct new electronic weapons systems repairers

9-12 yrs

SENIOR REPAIRER

As their skills increase, repairers perform more difficult repairs. Senior repairers:

- Set up and run electronic test and weapons system support equipment
- Install and calibrate (adjust) guidance, telemetry, and electronic fire control subsystems
- Use troubleshooting techniques to find faulty parts and causes for system breakdowns
- Use electronic test equipment and performance analyzers to test repaired systems and subsystems
- Train new repairers and help with difficult system repairs

4-7 yrs

WEAPONS SYSTEMS REPAIRER

After initial training, electronic weapons systems repairers work under close supervision performing simple electronic repairs and routine maintenance. At this level, they:

- Read maintenance manuals and wiring diagrams to find system parts and subassemblies
- Replace sights, gyroscopes (stabilizing devices), printed circuit boards (prewired electrical circuits), and other parts using special hand tools
- Use electronic equipment and test probes to check missile, aircraft, and other fire control and guidance systems
- Repair mounts, launchers, and platforms for computer-controlled guns, torpedos, artillery, and guided missiles

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FOOD SERVICE SPECIALISTS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

The military serves thousands of meals each day in dining halls, aboard ships, or in tents in the field. As a food service specialist, you help prepare these meals: you may bake the bread, cut the meat, prepare the main courses, or make the sandwiches. You begin your career by preparing food under the close supervision of experienced cooks and chefs. As you gain experience, you may plan meals and order supplies. There are opportunities to advance to chef and perhaps to food service supervisor.

DUTY ASSIGNMENT

Food service specialists work in clean, sanitary kitchens and dining halls on military bases and ships. They may work in a galley preparing food for a small unit, in a hospital cafeteria, or in a large dining hall where several hundred or several thousand people are served at each meal. Food service specialists may also work under field conditions preparing and serving meals outside in large tents. Most food service specialists work at military bases in the United States, but there is good opportunity for overseas assignment. Food service specialists are likely to work with civilian employees sometime during their career.

ADVANCEMENT

The quality of the food prepared for service men and women affects their health and morale. Food service specialists need to make an extra effort to see that the food they prepare is appetizing and nutritious. To do this, they must master cooking meals using standard recipes. They must also understand the characteristics and nutritional values of ingredients so that they can adjust recipes for large or small volumes and plan menus. At supervisory levels of the career, food service specialists also need to master the basics of managing a food service operation, such as ordering supplies and properly storing food. After mastering the basic cooking skills, the willingness to assume leadership roles helps food service specialists advance through the supervisory levels of this career.

Profile: Jim Johnson

Jim Johnson joined the Navy right after high school because, as he put it, "The job situation looked bleak." He and a friend joined the Navy to travel and to learn a trade. Jim found his career in his first assignment in Bainbridge, MD, as a seaman apprentice; after spending part of his tour working in the mess hall, he discovered that cooking was what he wanted to do. From Bainbridge, he was assigned to the USS *Waldron* in Norfolk, VA, where he worked in the ship's galley.

Jim reenlisted because the Navy gave him the opportunity to go to cooking school, where he learned menu planning and nutrition and improved his cooking skills. After school, he spent a year and a half in the bakery at the Naval Hospital in Guam. From Guam he went to Vietnam, where he supervised a team of food service specialists providing meals to tugboat crews. By the end of his tour, Jim had been promoted to petty officer first class.

Jim spent the next 3 years managing the inventory of a commissary store. He was not sure if his career in the Navy was going anywhere, but after some friendly advice from his Chief, he decided not to leave. His decision paid off. During his next assignment aboard the USS *O'Callahan*, he was in charge of running the entire mess, something he had always wanted. He was also promoted to chief petty officer. Jim says the most important day of his career was the day he "put on the hat." (The lower ranks, Jim explains, wear sailor caps; only chiefs may wear "the hat.")

After making Chief, Jim spent 3 years as an instructor in the Navy cooking school in San Diego. He and his fellow instructors won first place in the San Diego Culinary Show. On Saturdays, Jim ran a cooking school for Explorer Scouts. By the end of this assignment, Jim had been promoted to senior chief.

Jim has spent the past 4 years as food services supervisor on several ships. On the USS *New Orleans*, he managed a 35-person staff that fed 580 crew members and, at times, 1,800 Marines (nearly 7,000 meals a day). Aboard his last ship, the USS *Wadsworth*, he went on a 7-month cruise of the South Pacific, with stops in Hawaii, Guam, Korea, Hong Kong, the Philippines, Australia, New Zealand, Tonga, and Samoa.

SPECIALIZATION

While food service specialists typically begin as kitchen workers, they may specialize as bakers, butchers, or cooks. Depending on the military service, they may also spend their career preparing special meals for hospital patients. These meals, which require special attention, are usually ordered by a physician or a dietitian to meet a patient's special need for low calorie or salt free food.

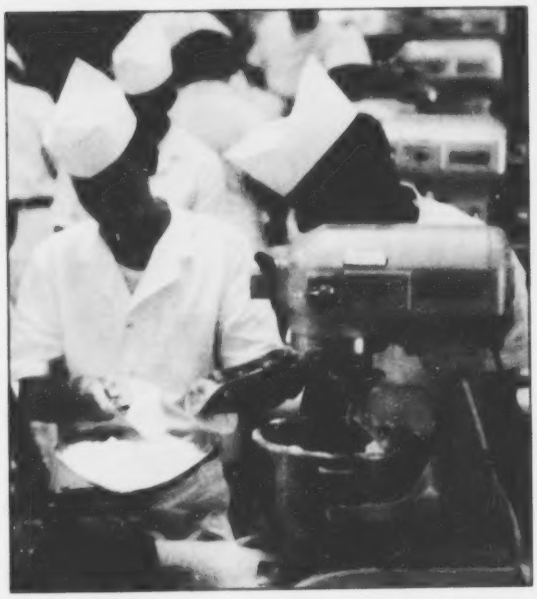
TRAINING

The services provide cooks with 10 to 18 months of basic and initial job training. It combines classroom and on-the-job training. Classroom training focuses on the basics of kitchen operations, sanitation, food storage, and the use of standard and special diet menus and recipes. Hands-on exercises at the school involve preparing and cooking standard menu meals. Intensive on-the-job training in preparing, arranging, and serving is given by experienced workers and chefs. Most chefs return to school for advanced training in food production and management of a food service facility. Courses may also be taken in specialized cooking, such as preparing gourmet meals, baking using advanced techniques, or cooking for pilots and flight crews.

During their career, food service specialists learn supervisory skills through leadership training and job experience. This training continues through the food service supervisor level with courses in pricing, nutrition, accounting, sanitation, inventory control, and personnel management.

RELATED MILITARY OCCUPATIONS

If you are interested in a service career where you work closely with others, you may also want to consider other occupations described in the Administrative Occupations cluster and the Service Occupations cluster in the *Military Career Guide*.



TYPICAL CAREER PATH

Timeline

FOOD SERVICE SUPERVISOR

Highly qualified chefs may advance to direct and control a large food service facility. Food service supervisors:

- Set food service standards, policies, and work priorities
- Plan and develop food service training programs
- Inspect food service facilities and evaluate work procedures
- Plan and prepare budgets and monitor food service expenses
- Determine personnel, equipment, and food supply needs
- Prepare standard operating procedures and administrative reports on food service activities

15-21 yrs

CHEF

As their skills in food service increase, cooks take on more responsibility. As chefs, they:

- Plan and prepare standard and dietetic food menus and recipes
- Direct kitchen staff in a food serving facility
- Prepare work schedules and assign food service duties
- Set food serving procedures and plan layouts for dining areas
- Determine food and supply needs and prepare order forms and records
- Conduct training classes and assign trainers to new cooks

7-13 yrs

COOK

After initial training, food service specialists begin their career working as cooks. Working under the supervision of experienced chefs, they:

- Receive, inspect, and store beverages, food items, and food service supplies
- Cook meat, fish, poultry, and vegetables
- Bake cakes, pies, bread, and pastries
- Make soups, salads, and sandwiches
- Serve food in a hospital, dining hall, field kitchen, or aboard ship
- Clean dining areas, kitchen utensils and equipment

INFANTRYMEN

ARMY
MARINE CORPS

As an infantryman, you live with a challenge. You learn to push yourself to do things you never thought possible. Your main focus is on teamwork, discipline, and physical conditioning. You begin by learning to read maps, fire weapons, and prepare for enemy attacks. By demonstrating leadership skills, there are opportunities to advance to platoon sergeant and perhaps to company/battalion sergeant.

DUTY ASSIGNMENT

Infantrymen are most often assigned to infantry units at military bases in the United States, but many are stationed in Western Europe and the Pacific Islands. Not all assignments for infantrymen are with infantry units; at some time in their career, experienced infantrymen are usually assigned to other positions. The most popular assignments include recruiter, drill instructor, and headquarters staff.

ADVANCEMENT

The nature of combat calls for infantrymen to be able to take charge and lead squad members to reach their goals. Good leadership skills are the key to advancing in the infantry. To advance, infantrymen must show that they could motivate and lead others in combat. They must begin developing these skills at basic training and apply them by leading men of their squad or platoon in exercises and maneuvers. The willingness to assume leadership roles and take on additional responsibilities helps an infantryman advance through the supervisory levels of this career.

Profile: Michael Fry

As a civilian, Staff Sergeant Michael Fry had a good job as a pipe layer, but his work was the same every day and he felt he was not going anywhere. Mike joined the Marines because, as he puts it, "I was looking for a challenge and wanted to go different places and do different things." More importantly, Mike says, "I wanted to belong."

For Mike, teaching other Marines the skills he has learned has been the most important part of his infantry career. He believes that leadership and training are the basic roles of all noncommissioned officers (NCOs). During his career, Mike has actively sought assignments that allow him to share what he has learned.

During his initial infantry training, Mike was one of 10 Marines selected for barracks duty. Assigned to the Marine Barracks in Norfolk, VA, for a year, his squad provided security for the many naval installations in that area. From Norfolk, Mike went to marksmanship school at the Dam Neck Rifle Range. He did so well that the school asked him to stay on for a year as an instructor.

When Mike was sent to Okinawa as part of the 3rd Marine Brigade, his experience at the rifle range qualified him to become company armorer in charge of the company's small weapons. While in Okinawa, Mike was promoted to sergeant and volunteered for duty as drill instructor. The following year he recalls as the most rewarding of his career. "I was proud to be able to take someone off the streets and turn him into a Marine," he says. While a drill instructor, he also taught water survival to new recruits. Mike spent the next 3 years as a platoon sergeant in Hawaii training 40 Marines on land and on ship. He led the platoon in many different training exercises and on several cruises.

Mike is currently an instructor at the Marine Corps Officer Candidate School in Quantico, VA, where he trains college students who will one day become officers. He also works at the NCO school teaching leadership to other noncommissioned officers. Mike knows that he is due for another assignment in the near future and says he and his family are trying to decide where they want to go.

CIALIZATION

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INING

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As platoon sergeants, infantrymen take training in leading an infantry platoon. They learn about infantry combat operations, leadership, communications, and information gathering. Company/battalion sergeants take advanced training in planning and directing infantry operations. They learn about weapons, military tactics, unit readiness, and effective leadership.

RELATED MILITARY OCCUPATIONS

If you are interested in a combat career, you may also want to consider a career in the special operations forces or as an artillery crew member, combat engineer, or tank crew member. See the Combat Specialty Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

TYPICAL CAREER PATH

Timeline

COMPANY/BATTALION SERGEANT

Company/battalion sergeants plan and direct the several platoons that make up an infantry company or battalion. Typically, they:

- Plan and conduct training programs
- Help decide how and when troops and equipment will be used
- Supervise operation of the unit command post
- Prepare situation briefings, combat orders, and other reports

17-20 yrs

PLATOON SERGEANT

Qualified squad leaders are promoted to supervise a platoon consisting of several squads. At this level, they:

- Supervise a rifle, machine gun, or other infantry group
- Receive and give combat or training exercise orders
- Help develop battle plans
- Coordinate the movement of troops, supplies, and weapons
- Direct the storage and issue of ammunition

7-8 yrs

SQUAD OR FIRE TEAM LEADER

Infantrymen who show leadership potential may become squad leader of a small group of infantrymen. Squad or fire team leaders:

- Motivate and give on-the-job training to new infantrymen
- Coordinate the squad's collection of information about the enemy and the battlefield
- Read maps and photographs taken from aircraft to locate enemy forces
- Request artillery or aircraft support fire
- Carry out combat or training exercise orders

3-4 yrs

INFANTRYMAN

After initial job training, infantrymen train and take part in combat exercises. They:

- Fire and maintain rifles, machine guns, and other weapons
- Stand watch at observation posts to observe enemy troop movement
- Stand watch at roadblocks and man bunkers and gun positions
- Drive trucks to transport troops, weapons, and supplies
- Place and arm antipersonnel and antitank mines

This career is not open to women

MACHINISTS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

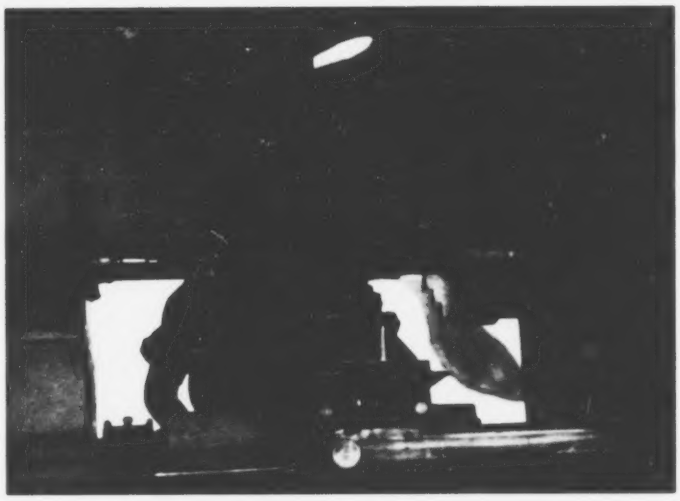
Machinists make engine parts so precise that their quality is measured to one one-thousandth of an inch. As a machinist, you make and repair parts for mechanical equipment, such as engines and generators, to keep them in running condition. You begin your career learning to use lathes, grinders, drill presses, and other metalworking machines under close supervision. As your skills develop, you may also learn the art of tool and die making and how to plan machining jobs and lay out work materials. There are opportunities to advance to machine shop supervisor and perhaps to mechanical maintenance superintendent.

DUTY ASSIGNMENT

Machinists usually work in a machine shop that is part of a larger maintenance organization. Depending on the service, machine shops may be part of an aircraft maintenance unit, a ship tender, or a vehicle repair and maintenance unit. Machinists may also be assigned to the maintenance section of a large combat unit, where they work with mobile equipment during field exercises. Machinists are needed in units all over the world, so there is good opportunity for overseas duty.

RELATED MILITARY OCCUPATIONS

If you are interested in metalworking, you may also want to consider a career as a welder, shipfitter, or sheet metal worker. See the Machine Operator and Precision Work Occupations cluster in the *Military Career Guide* for descriptions of these occupations. Other related occupations may be found in the Vehicle and Machinery Mechanic Occupations cluster in the *Military Career Guide*.



Profile: Nancy Pruitt

Staff Sergeant Nancy Pruitt has enjoyed her 10 years on active duty. She says her Army career has provided her the opportunity "to travel, meet different people, learn the latest technologies, and just have fun."

Nancy joined the Army Reserves for training so she could do something different from her civilian job as a clerk typist. After basic training, she went to Fort Sam Houston for training as a medical service technician. For a year, she worked several weekends a month with her reserve unit, then she volunteered for active duty. "I enjoyed my time on duty, and I saw the Army as a place to get ahead," she explains. Since the active Army did not allow women in her specialty, she asked to become a machinist. She thought the work would be challenging and different and would allow her to prove herself. She went through initial training at Aberdeen Proving Grounds, MD, where she learned the basic skills required of all machinists. Her first assignment was at Fort Eustis, where she worked in the maintenance company, helping make repairs to everything from radios to helicopters. She was able to learn her trade quickly and became familiar with some of the other occupations in the maintenance shop.

At Fort Eustis, Nancy also worked for a year in her second specialty as a medical technician. She was then assigned to a maintenance company in Korea for a year, where she was promoted to sergeant. She returned to the States as a shop foreman in the services section of an armored division at Fort Knox, KY. In this position, she supervised a crew that repaired jeeps, tanks, and other armored equipment.

Nancy has been assigned to the Aberdeen Proving Grounds for the past 5 years as an instructor and noncommissioned officer in charge of student control. In addition to teaching metalworking courses, she processes students entering training and assigns them to their various classes. Nancy was recently promoted to staff sergeant and looks forward to being one of the top-ranking females in the maintenance field. When asked about being a female in a nontraditional job, Nancy replies, "I like the challenge of being the only female in the unit."

...CEMENT

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TRAINING

The services provide machinists with 6 to 9 months of basic and initial job training. It includes both classroom and on-the-job instruction. Classroom instruction includes the basics of metalworking, including the properties of metals and the use of machine tools, such as lathes, drill presses, and milling machines. Class work also includes training in interpreting blueprints and using precision measuring devices. Expert machinists direct on-the-job training on each machine tool and instruct new machinists in planning, laying out, and completing machining jobs. Advanced training is available for senior machinists interested in more complex machining techniques and the art of tool and die making.

During their career, machinists learn supervisory skills through leadership training and job experience. This training continues through the mechanical maintenance superintendent level with courses in management and administration. Typically, these courses address budgeting, personnel management, machine shop operations, and training program development.

TYPICAL CAREER PATH

Timeline

MECHANICAL MAINTENANCE SUPERINTENDENT

Machine shop supervisors may advance to plan and direct activities of entire mechanical maintenance units. Superintendents:

- **Plan personnel needs and organize placement of equipment in the shop**
- **Develop training programs and procedures for shop personnel**
- **Set up programs to ensure quality work products**
- **Manage unit administration, including filing, preparing reports, and maintaining publications that contain part descriptions or work procedures**

16-20 yrs

MACHINE SHOP SUPERVISOR

Skilled senior machinists who show leadership ability may become supervisors of machine shops. At this level, they:

- **Plan and schedule projects to use personnel and equipment efficiently**
- **Conduct training programs and assign trainers to new machinists**
- **Oversee shop operations**
- **Inspect finished machined parts and work pieces for quality**
- **Design, make, and repair special machine tools, including dies and jigs**

7-8 yrs

SENIOR MACHINIST

By mastering basic machining skills and abilities, machinists can become senior machinists. They:

- **Assign work to machinists to meet work deadlines**
- **Conduct on-the-job training and show new workers how to operate machines**
- **Interpret work orders and specifications and help with complex machine jobs**
- **Perform difficult machine setup and operation for precision work**
- **Lay out, mark, and make metal and nonmetal parts**

3-5 yrs

MACHINIST

After initial job training, machinists learn to use metalworking machines to make and repair metal parts. Working under close supervision, they:

- **Read blueprints, sketches, diagrams, and work specifications**
- **Measure and mark parts and materials for machining**
- **Lay out common work pieces and set up standard machine tools**
- **Operate lathes, grinders, shapers, and milling machines**
- **Test completed work using precision devices, such as gauges, calipers, and micrometers**

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MARINE ENGINE MECHANICS

ARMY
NAVY
AIR FORCE
COAST GUARD

Marine engine mechanics keep the ship's engines running. As a marine engine mechanic, you maintain and repair ship or small boat engines, propulsion machinery, and other shipboard mechanical equipment. You begin your career performing routine maintenance and repairs under close supervision. As you gain experience, you take greater responsibility and perform more difficult repairs. There are opportunities to advance to engine-room supervisor and perhaps to marine engine superintendent.

DUTY ASSIGNMENT

Marine engine mechanics work aboard ships or at land-based repair centers. Shipboard duty may involve work anywhere on the high seas or at the ship's home port. A large number of marine engine mechanics work on launches (small boats) and amphibians (vessels able to move on water and over land). Some mechanics work on cutters that patrol the coastal waterways.

ADVANCEMENT

Marine engine mechanics must understand different kinds of equipment. They must have the technical skills needed to find the cause of a malfunction and fix it. Good eyesight, sharp hearing, and hand-eye coordination are important since mechanics must be able to spot damaged or broken parts, detect the sounds of faulty operation, and make precise adjustments. They must be able to read blueprints and follow standard maintenance procedures. Marine engine mechanics must also have a good job performance record in standing engineroom watches. To do this well, they must be alert for unusual conditions and understand emergency procedures. After mastering the basic skills, the willingness to assume leadership roles helps marine engine mechanics advance through the supervisory levels of this career. The opportunity for advancement is usually increased by experience in working on more than one type or class of vessel.

Profile: George Monch

George Monch grew up in Cape May, NJ, home of the Coast Guard Training Center. His love for the sea and familiarity with the Coast Guard directed him toward a Coast Guard career. Even now, after 16 years, Chief Monch still says, "I can't be too far from the water."

Out of boot camp, George went to Yorktown, VA, for a 4-month course in engineering. His first assignment was back home in Cape May aboard the cutter *Alert*. As George explains it, his first duty assignment was "basic engine cleaning." However, it was not long before he was promoted in both rank and responsibility. He was assigned to overhauling small boilers and maintaining the fresh water system. He also helped repair auxiliary engine equipment.

George's next assignment was a 1-year tour in Japan. He started out as a watchstander and advanced to supervise the overhaul of engines and auxiliary equipment. He then returned to Cape May to become part of the Aids to Navigation Team responsible for operating and maintaining several boats, lighthouses, and navigation buoys.

George left active duty after 8 years, but stayed in the Coast Guard Reserve, working weekends as a small boat operator on search and rescue missions. Three years later, seeking greater job security, he decided to go back on active duty. He was assigned to the *Eagle*, the Coast Guard Academy's training vessel. In the winter, George supervised the modernization of the ship's auxiliary equipment (engines that are used in place of the sails). In the summer, as the *Eagle* sailed across the Caribbean and the Atlantic to Europe, he gave the cadets instruction in seamanship and the ship's auxiliary equipment.

George's next assignment was on the West Coast, where he was the engineering supervisor on the *Point Ledge*, a vessel used for search and rescue and drug enforcement along the California coast.

For the past 2 years, Chief Monch has worked at the Coast Guard shipyard in Baltimore, MD. In charge of equipment for a variety of vessels, he orders parts and advises the ship's crew on how to replace broken parts and repair equipment.

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RELATED MILITARY OCCUPATIONS

If you are interested in working with your hands and with machines, you may also want to consider a career in the closely related occupation of boiler technician. Other related occupations--machinist, aircraft mechanic, automobile mechanic, and powerhouse mechanic--can be found in the Vehicle and Machinery Mechanic Occupations cluster and the Machine Operator and Precision Work Occupations cluster in the *Military Career Guide*.

TYPICAL CAREER PATH

Timeline

MARINE ENGINE SUPERINTENDENT

Superintendents plan and direct maintenance and repair activities of marine engine mechanics on ships or at repair centers. They:

- **Organize training programs and long-range maintenance programs**
- **Issue orders and instructions for attaining objectives**
- **Predict personnel, equipment, and material needs**
- **Develop and monitor safety programs**
- **Review and update requirements for watchstanding qualifications**

17-20 yrs

ENGINEROOM SUPERVISOR

Marine engine mechanics who master the technical skills and demonstrate leadership qualities can advance to engineroom supervisor. At this level, they:

- **Supervise repair of engines, propulsion machinery, and shipboard mechanical equipment**
- **Prepare reports on machinery repairs and performance**
- **Give technical advice and help**
- **Adjust work assignments for personnel development and cross-training**
- **Supervise an engineroom watch and make sure that watchstanders maintain proper qualifications**

8-9 yrs

MARINE ENGINE MECHANIC

Mechanics perform more complicated engine repairs and help apprentice mechanics. At this level, they:

- **Find the causes for inefficient engine and power plant operations**
- **Determine repairs needed and perform or direct repair work**
- **Instruct mechanics in operational procedures and in damage and casualty control**
- **Check main engine bearing and thrust clearance**
- **Clean, inspect, and repair mechanical and hydraulic governors (speed limiting devices)**

4-5 yrs

APPRENTICE MARINE ENGINE MECHANIC

After initial job training, apprentice mechanics work under close supervision to perform maintenance and repair. They:

- **Clean and repair or replace hydraulic filters and fuel oil injectors**
- **Study blueprints and drawings to trace, locate, and inspect piping systems, valves, and other machinery parts**
- **Inspect and repair engine parts, such as rings, pistons, bearings, and cylinder heads**
- **Verify clearances between engine parts, using gauges and micrometers**
- **Service and repair hoisting machinery, ship elevators, and refrigeration and air conditioning equipment**

MEDICAL SERVICE TECHNICIANS

ARMY
NAVY
AIR FORCE
COAST GUARD

Medical service technicians help treat the sick, injured, and wounded. As a medical service technician, you assist doctors and nurses in giving medical care to service members and their families. You begin your career performing medical procedures, such as giving shots, providing emergency first aid, and taking patients' vital signs (pulse, temperature, respiration, and blood pressure). Later you may perform minor surgery, give emergency treatment, or provide treatment for the critically ill. There are opportunities to advance to medical service supervisor and perhaps to medical services coordinator in a large health care facility.

DUTY ASSIGNMENT

Medical service technicians may be assigned to a hospital, clinic, emergency room, or ship's dispensary. They may also be assigned to a search and rescue unit or field hospital. Medical service technicians are assigned both in the United States and overseas. Technicians who specialize in a particular field of medicine may be limited to hospitals with medical departments in their specialty. As technicians advance in rank, most assignments are made to medical facilities where there are large staffs to manage.

ADVANCEMENT

Since someone's life may hang in the balance, medical service technicians must be sure and precise in their work. During emergencies or combat, a technician may be called on to make life or death decisions. Medical service technicians must master handling, treating, and caring for patients and assisting medical officers. They must also become skilled at carrying out basic medical procedures.

Medical service technicians who choose one field of medicine as a specialty must complete advanced training and gain additional job experience to qualify in that specialty. After mastering the basic skills, the willingness to assume leadership roles helps technicians advance through the supervisory levels of this career.

Profile: Larry Roberts

Larry Roberts feels that his career as an Army medical service technician has made the most of his abilities. "I'm good with people," he says, "and I react well in emergencies." His first assignment was with the 65th Medical Group, near Yongsan, Korea. In the beginning, he worked in the dispensary (clinic), caring for patients under the direction of a physician. When needed, he was sent to the demilitarized zone (DMZ) to treat casualties. Within a year, he had been promoted from private first class through sergeant and had become a medical noncommissioned officer (NCO).

From Korea, Larry was assigned to Letterman Army Medical Center, CA, where he cared for patients in special care units and the emergency room. He gave medications, changed dressings, maintained supplies, and helped patients after surgery. Larry liked working in the emergency room best. "There was always something happening," he says. "It kept me sharp and nimble."

Even though he enjoyed his work, Larry decided at this point to leave the Army. He was a civilian for only 83 days. He realized he liked his career; it interested him more than any others he saw, so he reenlisted.

Larry was sent back to the DMZ in Korea for a year to be in charge of a dispensary. He was then transferred to the 377th Medivac Squadron, a helicopter squadron that picked up patients from all over Korea. His job was to keep the patients alive until they got to the hospital. Back in the States, Larry was assigned to an Army medical center. He started in the emergency room, where he performed emergency patient care and went on ambulance runs, and ended his tour in the burn unit.

Larry's next assignments took him more into administration. By this time, Larry had been promoted through staff sergeant to sergeant first class. His best experience, he feels, was at Letterman Army Medical Center, where he was NCOIC of the department of ambulatory care. "Everything came together there," he says. "I had a good group, and I felt good about what I could do."

Larry is now the career advisor NCO for medical service technicians. With 18 years of travel and adventure behind him, he uses his wide knowledge of the field in helping select people for schools and assignments.

SPECIALIZATION

Just as doctors specialize in specific fields of medicine, so may the medical service technicians who assist them. Medical fields that technicians choose as specialties include neurology (treating brain and nervous system disorders), allergy immunology (treating patients with allergies), and aerospace physiology (assisting flight surgeons in caring for flight crews). Technicians may also specialize in a particular type of duty, such as emergency room and ambulance service, air search and rescue, or aeromedical evacuation (helping to transport patients and giving in-flight medical care). Some technicians train for independent duty to provide medical care at remote locations where doctors may not be available.

TRAINING

The services provide medical service technicians with 9 to 24 months of basic and initial job training. It includes both classroom instruction and clinical (on-the-job) experience. Classroom instruction stresses the basics of patient care, emergency first aid, and medical and administrative service procedures. Clinical training, which takes place under a doctor's supervision, gives technicians experience in helping doctors examine and treat patients and the skills needed to give shots, take patients' vital signs, and collect blood, tissue cultures, and other samples for laboratory tests. This training includes the completion of medical history forms and other administrative procedures.

Advanced technical training is available for medical service technicians in surgical procedures, preventive medicine, or medical diagnosis and treatment. At this point, technicians may also train for a specific field of medicine or in a particular duty assignment.

During their career, medical service technicians learn supervisory skills through leadership training and experience. Specific training emphasizes evaluating personnel, planning and assigning duties, and supervising medical service operations. Such training continues through the medical services coordinator level with courses in management and administration of large hospitals and medical centers. Typically, these courses address budgeting, personnel management, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in a medical career, you may also want to consider other military medical occupations described in the Health Care Occupations cluster in the *Military Career Guide*.

Timeline

TYPICAL CAREER PATH

MEDICAL SERVICES COORDINATOR

Expert supervisors may advance to the most senior level, where they coordinate supply, administrative, and paramedical activities. They:

- **Help medical staff plan and direct patient care and treatment**
- **Plan and set up training, health care, and disaster control programs**
- **Oversee and inspect training, administrative, and patient care operations**
- **Set work priorities and procedures for medical service activities**
- **Recommend ways to improve facility operations and working conditions**

18-19 yrs

MEDICAL SERVICE SUPERVISOR

Highly skilled medical service technicians who show leadership ability are assigned supervisory responsibilities. Supervisors:

- **Plan and schedule work, personnel, and training assignments**
- **Inspect medical service operations**
- **Write technical, personnel, and patient reports and records**
- **Help select sites and set up field medical facilities**

8-11 yrs

MEDICAL SERVICE TECHNICIAN

By increasing their skills, medical service aides may assume additional duties. As technicians, they:

- **Train new workers in basic first aid and emergency medical care**
- **Treat shock victims and wounded, injured, or critically ill patients**
- **Drive ambulances and care for patients until they are admitted to a medical facility**
- **Perform minor surgery, suture wounds, and make and apply casts to broken limbs**
- **Prepare patients for surgery and perform preoperative and postoperative care**

4-6 yrs

MEDICAL SERVICE AIDE

After initial job training, medical service aides are assigned to a medical services unit. Working under close supervision, they:

- **Fill out patients' medical history forms and other records**
- **Take and record patients' temperature, pulse, respiration, and blood pressure**
- **Assist in examining and treating patients who have minor injuries or common diseases**
- **Collect blood, cultures, and other specimens**
- **Provide emergency first aid and change bandages and dressings**

MILITARY POLICE

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Military police (MPs) must always be ready for the unexpected. As an MP, you stand guard, conduct patrols, control traffic, arrest suspects, and enforce military laws and regulations. You begin your career performing duties as part of a base police force. As you gain experience and develop leadership skills, you may direct a small squad. There are opportunities to advance to law enforcement supervisor and perhaps to law enforcement superintendent.

DUTY ASSIGNMENT

MPs are most often assigned to a security or law enforcement unit at a military base. The size of the base determines the size of the military police force and the duties of the MPs. At small bases, the force is also small, and MPs usually carry out many different duties. At larger bases, where the force is larger, MPs are likely to be assigned to a specific duty. Most MPs are assigned to bases in the United States, but there is good opportunity for assignment to a base overseas, particularly in Europe.

ADVANCEMENT

MPs must be able to think and react quickly in dangerous situations. They must master skills in patrolling, self-defense, and emergency response. MPs must show good judgment and a sense of responsibility, and remain calm under stress while performing their duties. To advance, MPs must master law enforcement responsibilities, such as crowd control, traffic enforcement, and crime prevention. Experienced police can choose to take additional training to qualify as detectives. After mastering the basic skills, the willingness to assume leadership roles helps MPs advance through the supervisory levels of this career.

In the Navy, a military police career starts at the supervisory level. Individuals may enter the military police at this point from almost any job in the Navy.

Profile: Harold Peters

When Harold Peters joined the military, he knew he wanted to be a Marine. He actually began his career in the infantry. It was not until 14 years after he joined—after serving several tours in Vietnam and Japan and after receiving a number of decorations—that he became a military policeman (MP). "I felt I would be a good MP," he explains, "because I thought I could set a good example."

Harold had some previous experience serving special duty as a patrolman and desk sergeant in Japan, so he knew what to expect on his first assignment at Camp Pendleton, CA. As senior patrol sergeant and desk sergeant, he ensured base security and supervised the units on the base. He also enforced regulations. "As an MP, the only thing I did not like," he says, "was seeing young marines get in trouble, but sometimes I could talk to them and help them."

Harold was next assigned to corrections as a deck warden in the maximum security correctional facility. When he was reassigned back to MP duty, he became operations chief at Camp Pendleton. He moved up to inspector and then to support operations officer in charge of weapons and material. One assignment during this time was particularly important to him: he was placed in charge of police enforcement for a Vietnamese refugee camp.

Master Gunnery Sergeant Peters is now provost sergeant to the provost marshal for the morale, welfare, and performance of all enlisted personnel at Camp Lejeune, NC. In this position, he serves as liaison to the provost marshal on military police matters, conducts inspections of MPs, and assigns them to their duties.

Harold has given 29 years of service to the Marine Corps and his country. As he approaches his retirement, he says that he has liked helping young Marines, guiding them in their duties and responsibilities, and giving them encouragement. He is looking forward to his next (and last) assignment, which will be in Japan. "I've had an exciting career in the Marine Corps," he says. "I only wish it could last longer."

SPECIALIZATION

Military police may specialize in one of several areas of law enforcement. For example, some MPs work with specially trained dogs to conduct patrols and detect drugs or explosives. Others work as security specialists to protect aircraft, missiles, nuclear weapons, and property from enemy and terrorist attacks.

TRAINING

The services provide military police with 9 to 12 months of basic and initial job training. The MP's career begins with a basic law enforcement or security operations course that includes instruction and practical exercises in traffic control, self-defense, security patrols, convoy escorts, and suspect arrest and control. MPs also get on-the-job training from their squad leader and supervisor. Advanced training courses in traffic law enforcement, accident investigation, patrol techniques, and base security activities are available throughout a military police career.

Military police may also receive training focusing on specialized military duties. Dog handlers train to work with and care for their dogs. They learn obedience techniques and how to use a dog in law enforcement or security patrols. Security specialists train in the use of special weapons, security operations, and small unit tactics.

During their career, MPs learn supervisory skills through leadership training and job experience. Leadership training develops skills in supervising security or general law enforcement programs and scheduling work activities. Training continues through the level of law enforcement superintendent, with courses in planning, managing, budgeting, and evaluating law enforcement activities.

RELATED MILITARY OCCUPATIONS

If work in the protective services interests you, you may also want to consider a career as a detective, corrections specialist, or firefighter. See the Service Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

TYPICAL CAREER PATH

Timeline

LAW ENFORCEMENT SUPERINTENDENT

Law enforcement superintendents manage military police forces on large bases. At the most senior level, they:

- Decide where military police support is needed
- Coordinate military police work with civilian agencies
- Set police force goals and objectives
- Study accident reports and plan traffic safety programs

18-20 yrs

LAW ENFORCEMENT SUPERVISOR

By demonstrating leadership skills, squad leaders advance to supervise several squads. At this level, they:

- Develop crime prevention programs
- Help MPs with problem cases
- Plan work schedules and make duty assignments
- Prepare technical and personnel reports

8-11 yrs

SQUAD LEADER

Through experience and training, MPs advance to direct a small squad of police. Squad leaders:

- Give on-the-job training to new MPs
- Carry out traffic safety programs
- Direct crowd control operations
- Inspect squad members for proper uniform and equipment

4-6 yrs

MILITARY POLICE

In their first assignments on a base police force after initial training, new MPs:

- Patrol areas on foot, by jeep, or by boat
- Direct the movement of people and traffic
- Investigate traffic accidents
- Arrest crime suspects
- Prepare criminal and accident reports

best copy available

PERSONNEL SPECIALISTS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Profile: Gloria Ruiz

Technical Sergeant Gloria Ruiz gets shocked but positive reactions when people discover she is a career woman in the military. She likes the opportunities open to her in the military and feels that they are basically the same for women as they are for men. She believes that "if you give it everything you've got, the Air Force will give you all it has to offer."

Gloria finished the self-paced initial training course for personnel specialists in just 6 weeks, because she already knew how to type. Her first assignment was at Lowry Air Force Base (AFB), CO, where she scheduled testing for personnel eligible for promotion. She quickly advanced to airman and then to airman first class. At Lowry, she met and married her husband, who is also in the Air Force.

On her next assignment at the Royal Air Force in Upper Heyford, England, she was responsible not only for test scheduling, but also for reviewing, maintaining, and organizing records for all the enlisted and officer promotion programs. "At this point, I really dug into the career field, started learning things for myself, and began building a good work reputation." She achieved senior airman and sergeant and soon became the assistant noncommissioned officer in charge (NCOIC).

Over the next several years, Gloria's assignments took her into various areas of personnel administration. At Offutt AFB, NE, she was the NCOIC of processing base personnel leaving the Air Force. Here, she received the Meritorious Service Medal for the high quality of her work and was also promoted to staff sergeant. Gloria was head of quality force on her next assignment at Thule AFB, Greenland, a small base 600 miles south of the North Pole. "There were only four people in our office, so we got some good experience," she recalls. "But our 4th of July baseball game was played in the snow."

Gloria worked on separations and retirements on her next assignment at Davis-Monthan AFB, AZ. As part of her duties, she implemented computer programs and gave briefings on promotions. Through her efforts, the base personnel office was able to make significant improvements in its promotions and testing process. Technical Sergeant Gloria Ruiz is now the NCOIC of the promotion branch at Scott AFB, IL.

The military recruits, trains, promotes, reassigns, and retires over a million people each year. As a personnel specialist, you help in the process of matching service requirements with individual needs. You begin your career performing clerical duties, such as adding information (duty assignments, health information, and promotions) to service records and centralized data bases. As you gain experience, you may enter records into a computer and give advice and assistance to service members and their dependents. There are opportunities to advance to personnel specialist and perhaps to personnel supervisor.

DUTY ASSIGNMENT

Personnel specialists work in office settings on military bases or aboard ship, although some specialists may accompany their units in the field during special exercises. Personnel offices range in size according to the number of service members assigned to the base or unit; most large personnel offices also have some civilian employees. While most personnel specialists work at military bases in the United States, there is good opportunity for overseas assignment.

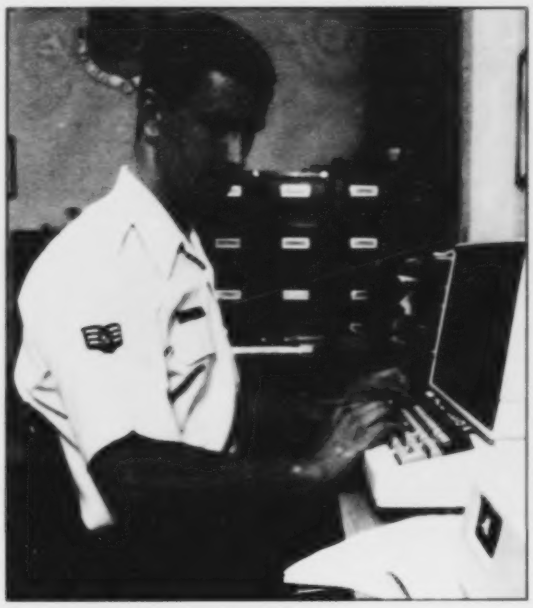
ADVANCEMENT

Since personnel specialists work closely with people, they need to have good communications skills and to be able to work easily with others. To handle the volume of paperwork and detailed information needed for personnel actions, they must be logical, well organized, and have a good memory for details. They must show good judgment when processing requests for duty assignments or training. The ability to type and work with computers is particularly important for advancement in this career. After mastering the basic skills, the willingness to assume leadership roles helps personnel specialists advance through the supervisory levels of this career.

TRAINING

The services provide personnel specialists with 9 to 11 months of basic and initial job training. It combines classroom instruction and on-the-job training. Classroom training emphasizes typing, interviewing techniques, test interpretation, classification testing, and routing and filing of forms and records. Supervisors give on-the-job training focusing on office procedures and the operation of personnel computer systems. Self-study also helps clerks learn about military careers and the services' needs for personnel in critical job areas.

During their career, personnel specialists learn supervisory skills through leadership training and job experience. This training continues through the personnel supervisor level with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.



RELATED MILITARY OCCUPATIONS

If you are interested in becoming a personnel specialist, you may also want to consider a career as an administrative support specialist, recruiter, or payroll specialist. See the Administrative Occupations cluster in the *Military Career Guide* for descriptions of these and related occupations.

TYPICAL CAREER PATH

Timeline

PERSONNEL SUPERVISOR

Personnel supervisors supervise the staff of a personnel office or advise commanders on personnel matters. They:

- Evaluate personnel office procedures and work load
- Organize and schedule training programs
- Orient new personnel clerks and assign them to supervisors for on-the-job training
- Develop operating budgets and track expenditures
- Advise supervisors and commanders on personnel matters

17-21 yrs

PERSONNEL SPECIALIST

Personnel clerks who have mastered the work routine may become personnel specialists. At this level, they:

- Supervise the processing of personnel action forms (promotions, awards, and reassignments) and the maintenance of service record files
- Train and assist new personnel clerks
- Assign work to personnel clerks and monitor their job performance
- Conduct preretirement seminars
- Assist servicemembers and dependents who have special problems, such as a need for special medical care

5-7 yrs

PERSONNEL CLERK

After initial job training, personnel clerks perform routine clerical and administrative support duties to collect and maintain military personnel records. They:

- Interview incoming personnel and test and evaluate their qualifications
- Prepare and maintain servicemember personnel record files
- Prepare and type requests for orders, correspondence, personnel action forms, and related records and reports
- Maintain files and review personnel records with servicemembers
- Use computers to store and retrieve personnel information
- Process paperwork for promotions, retirements, reenlistments, separations (discharges), and reclassifications (changes in job specialties)
- Discuss training courses, duty assignments, and educational materials with servicemembers

RADAR AND SONAR EQUIPMENT REPAIRERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Radar and sonar equipment is used to detect objects in the air, under water, or at long distances that could not otherwise be seen. As a radar and sonar equipment repairer, you maintain and repair parts of these complex systems. You begin your career working under close supervision repairing simple parts and units on one system. As you gain experience and skill, you take more responsibility and make more difficult repairs. There are opportunities to advance to repair supervisor and perhaps to electronic repair superintendent.

DUTY ASSIGNMENT

Radar and sonar equipment repairers work in repair units on military installations or aboard ships or aircraft. They may be assigned to units that use radar and sonar equipment or to large facilities equipped to repair, overhaul, or modify complex systems. Repairers work at military installations across the nation and overseas. There is good opportunity for overseas assignment.

ADVANCEMENT

Radar and sonar equipment repairers find and fix malfunctions in complex electrical and electronic systems. They start by mastering a single radar or sonar system. To do this, they need to understand the principles of electronics and how the equipment works. They must develop skills in reading schematic diagrams, following detailed work procedures, and using special tools and test instruments. To advance, repairers must develop the analytical skills needed to diagnose the cause of equipment failure. After mastering the basic skills, the willingness to assume leadership roles helps radar and sonar equipment repairers advance through the supervisory levels of this career.

Profile: Richard Block

Richard Block selected electronics as his occupation when he joined the Air Force because, as he says, "I like working with my hands, and I like to see the results of my efforts." He was assigned to become an aircraft control and warning radar specialist.

After basic training, Richard was sent to Keesler Air Force Base (AFB), MS, for a 10-month training course in repairing aircraft control and warning radar. His first assignment as a radar repairman took him to West Germany, where he worked as part of a mobile tactical squadron that was often sent on missions to other parts of Europe. Richard liked the travel—"a big change from high school"—and working with a small group. He says a NATO exercise in Spain was the highlight of his 3-year tour.

For the next 5 years, Richard's assignments alternated between duty overseas and in the United States. He worked in Ajo, AZ, on height finder radar and then moved up to assistant maintenance support supervisor of repairs on aircraft radar at Palermo, NJ. The Air Force then sent him to Vietnam for 6 months, where he maintained supporting radar equipment, such as scopes, mappers, trainers, coder-decoders, and interrogator sets. Back in the United States, Richard was assigned to coordinate radar maintenance between his division and the work centers. He then returned overseas to Thailand for a year as assistant auxiliary maintenance supervisor.

The next 8 years at Cape Charles, VA, were important ones for Richard. He found himself moving quickly into positions of greater responsibility. Starting as height maintenance radar supervisor for an air division, he advanced to quality control supervisor. In this position, he evaluated personnel, inspected work centers for maintenance, and monitored schemes (which show the placement of equipment).

Richard is now stationed at Dobbins AFB, GA, but has retrained to work on air traffic control radar. As maintenance support supervisor, he coordinates the maintenance of radar equipment near the airstrip and air traffic control tower.

SPECIALIZATION

Radar and sonar equipment repairers usually specialize in equipment designed for a specific purpose, such as:

- Air defense radar used around the world to detect enemy missiles, planes, and satellites
- Air traffic control radar used to identify and manage aircraft takeoffs, landings, and flight patterns
- Submarine or ship sonar used for underwater detection and surveillance

TRAINING

The services provide apprentice radar and sonar equipment repairers with 6 to 24 months of basic and initial job training. Initial job training is usually provided in two phases. The first phase consists of basic electrical and electronics training, including electronic theory and principles. The second phase consists of both classroom and hands-on training in a single radar or sonar system. Classroom instruction focuses on applying electronic principles to the specific system. Hands-on training with actual equipment gives experience in the practical application of classroom instruction. Radar and sonar repairers may take advanced electronics courses or training on additional systems.

During their career, radar and sonar repairers learn supervisory skills through leadership training and job experience. This training continues through the level of electronic repair superintendent with courses in management and administration. Typically, these courses address budgeting, repair shop operations, training program development, and personnel and work load management.

RELATED MILITARY OCCUPATIONS

If you are interested in electronic and electrical equipment repair, you may also want to consider a career as a radio equipment repairer, aircraft electrician, ship electrician, electronic weapons systems repairer, or data processing equipment repairer. See the Electronic and Electrical Equipment Repair Occupations cluster in the *Military Career Guide* for a description of these and other related military occupations.

Timeline

TYPICAL CAREER PATH

ELECTRONIC REPAIR SUPERINTENDENT

Electronic repair superintendents plan, direct, and control activities at radar or sonar repair shops. They:

- Coordinate repair reports and requests for parts
- Prepare personnel, technical, and administrative reports
- Determine needs for personnel, equipment, and spare parts
- Conduct safety and quality control inspections

17-20 yrs

REPAIR SUPERVISOR

Skilled radar and sonar repairers may advance to supervisor of an electronic repair unit. At this level, they:

- Develop standard operating procedures
- Assign and reassign work to reduce slowdowns and meet schedules
- Evaluate and train apprentice repairers
- Inspect work and give technical guidance
- Instruct workers in major changes to existing equipment

7-12 yrs

RADAR AND SONAR REPAIRER

As their skills increase, repairers perform more difficult tasks. Radar and sonar repairers:

- Find problems, using troubleshooting techniques and test equipment
- Replace broken electrical and electronic parts using hand tools
- Align and adjust electromechanical assemblies to needed settings
- Test repaired equipment, using special test equipment, such as circuit analyzers (tools that test circuit boards) and continuity meters (tools that trace the flow of electricity)
- Calibrate (adjust) test equipment

3-6 yrs

APPRENTICE RADAR AND SONAR REPAIRER

After initial job training, apprentice radar and sonar repairers work under close supervision. They learn preventive maintenance and simple electronic repairs. At this level, they:

- Read repair tags and maintenance orders to determine work tasks
- Check for loose mountings, poor connections, and cracked resistors
- Replace faulty tubes, wiring, semiconductors, and circuit boards
- Clean and lubricate mechanical parts and connections

RADAR AND SONAR OPERATORS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

The information provided by radar and sonar operators is used to alert air squadrons, to direct missile, mortar, artillery, and naval gunfire, and to help U.S. forces evade enemy detection. As a radar or sonar operator, you identify, classify, and track objects according to their characteristic echoes (sonar) or displays (radar) on your headphones or screen. You begin your career by working closely with an experienced operator to develop your skills in identifying and classifying objects. As you become more experienced, you work more independently and take greater responsibility. There are opportunities to advance to radar or sonar supervisor and perhaps to operations superintendent.

DUTY ASSIGNMENT

Radar and sonar operators work in operations centers or command and control facilities on land or aboard aircraft, ships, or submarines. They work at military bases throughout the world, on coastal waterways, and on the high seas. In some radar and sonar specialties, operators must qualify for flight or submarine duty.

ADVANCEMENT

Tracking objects by radar or sonar requires constant vigilance. Radar and sonar operators must be able to concentrate to identify and track one object on a screen full of images. They must be alert for interference, jamming, and masking techniques used by enemy forces to disrupt equipment operations. Once an object has been determined to be a potential enemy threat, it must be rapidly identified; the operators must classify the object and determine the relative strength of the attack. They must then maintain a constant vigil to find the location, course, bearing, and speed of the enemy threat. Operators must also learn to recognize natural objects, such as sea life, land masses, and rain squalls or thunderstorms. After mastering the basic skills, the willingness to assume leadership roles helps operators advance through the supervisory levels of this career.

Profile: Jeff Lightner

Jeff Lightner has always been fascinated by submarines. So after enlisting in the Navy in advanced electronics, he volunteered for submarine duty. "After 16 years," Jeff says, "I'm still glad I made that decision."

Jeff's trip to boot camp was his first airplane ride and his first trip away from home. After this, things began to happen fast. By the time he left boot camp, he had been promoted to seaman. He then went to submarine school for training in electricity, electronics, sonar, and a specific sonar system. On leaving, he was selected class leader and became a petty officer third class.

Jeff's first assignment was on the USS *Wahoo*, operating and maintaining the sonar system. Life aboard the submarine was all Jeff hoped it would be. He liked the camaraderie among the men, and he enjoyed learning to stand all the different watches. During his second year on the *Wahoo*, he was promoted to petty officer second class and soon after became sonar supervisor. After his tour on the *Wahoo*, Jeff went back to school in San Diego for 6 months of training on a new sonar system. He made petty officer first class soon after he arrived and did so well in the course that he was asked to stay on as an instructor.

Jeff went back to sea on the USS *William H. Bates*, a nuclear submarine, as the Leading Petty Officer of a 12-man division. Since he had never operated the ship's particular sonar system, he had to qualify to operate it through on-the-job training. He then became sonar supervisor. When the sonar system was replaced during a ship refit, Jeff monitored the installation of the new system and conducted training for other operators. He was able to use this experience on his next assignment—monitoring the installation of sonar equipment on the new PCU *Houston*. He also wrote the training plan for the equipment and trained the entire sonar division. Two years later, he made chief petty officer and remained on board as the chief sonar technician.

Jeff likes his career in sonar. "The new technology keeps me challenged," he says. He is also proud to see the success of people he has trained. Jeff says he has one last ambition for his Navy career—to be the Chief of the Boat, the top enlisted person aboard a submarine.

SPECIALIZATION

Operators specialize in either radar or sonar systems, and both types of operators may specialize in a particular military function. Many operators monitor the early warning defense systems at isolated radar posts or in airborne command centers. Others operate long-range air search radar aboard ships or work with field radar units directing mortar, antiaircraft, and artillery fire from helicopters. Some operators conduct antisubmarine searches from helicopters. Others work on ships or submarines to detect enemy ships and navigation obstacles.

TRAINING

The services provide apprentice radar or sonar operators with 6 to 18 months of basic and initial job training. Through a combination of clasroom instruction and on-the-job training, trainees learn how radar and sonar equipment works, how to identify different objects, and how to operate equipment. Most equipment operators are trained to perform some maintenance of the systems they operate; sonar operators are fully trained to maintain and repair their equipment. At any time during their career, radar and sonar operators can expect to be retrained as new equipment becomes available. For sonar operators, retraining to maintain and repair equipment may be extensive.

During the early part of their career, operators who will become flight crew members are given specialized training in swimming, parachuting, air crew survival, and aircraft emergency procedures. Sonar operators who want to qualify for submarine duty must also complete specialized training.

During their career, radar and sonar operators learn supervisory skills through leadership training and job experience. This training continues through the operations superintendent level with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in a career as a radar or sonar operator, you may also want to consider a career in a related occupation, such as air traffic controller, weather observer, space systems specialist, radio operator, or radio intelligence operator. See the Engineering, Science, and Technical Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

Timeline

TYPICAL CAREER PATH

OPERATIONS SUPERINTENDENT

Radar and sonar operations superintendents perform administrative and technical duties. They:

- **Plan, schedule, and evaluate training programs**
- **Assign personnel to duty positions and determine work priorities**
- **Inform and advise superiors on the use and capabilities of personnel, equipment, and material**
- **Prepare reports, correspondence, and technical instructions**

18-21 yrs

RADAR OR SONAR SUPERVISOR

Operators who master the work routine and demonstrate leadership qualities may advance to supervisor of a ground, airborne, or shipboard radar or sonar unit. They:

- **Supervise training of personnel who operate, maintain, and repair radar or sonar equipment**
- **Give technical advice and assistance to operators**
- **Help superiors develop tactical procedures (responses to potential war situations)**
- **Conduct tactical training exercises**

8-11 yrs

RADAR OR SONAR OPERATOR

Skilled apprentice operators may advance to radar or sonar operator. At this level, they:

- **Ensure that radar or sonar stations are manned during watch and rest periods**
- **Help operators in multitarget operations and exercises**
- **Train and instruct operators in the use of equipment**
- **Operate radar and sonar computer equipment**
- **Test and replace faulty components (parts) and assemblies (major sections) of equipment**

4-6 yrs

APPRENTICE RADAR OR SONAR OPERATOR

After initial job training, radar and sonar operators find, classify, and track the movement of airborne, surface, and underwater objects. They:

- **Observe objects that appear on radarscope or sonarscope display screens**
- **Determine the position and movement of objects**
- **Identify radar or sonar contacts as aircraft, missiles, ships, submarines, or natural objects**
- **Relay information to pilots, gunners, and navigators by internal communications or radio equipment**
- **Keep records on objects identified and perform preventive maintenance on equipment**

RADIO EQUIPMENT REPAIRERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Radio communications are vital in coordinating sea, land, and air forces. As a radio equipment repairer, you install, maintain, and repair aircraft, land-based, ship-to-shore, or large satellite and microwave relay communications systems. You begin your career working under close supervision to perform maintenance and repairs on a specific radio communications device. As you learn more about radio equipment, you take greater responsibility and perform more complicated tests and repairs. There are opportunities to advance to repair shop supervisor and, perhaps, to radio repair superintendent.

DUTY ASSIGNMENT

Radio equipment repairers are assigned to maintenance units or laboratories aboard ships or on military installations all over the world. Repairs are generally performed in large repair shops equipped to perform complete repair jobs and system modifications, but repairers may also work out of doors or in the field when repairing microwave, satellite, or mobile radio equipment. There is good opportunity for overseas assignment.

ADVANCEMENT

Radio equipment repairers find and fix malfunctions in complex modern communications equipment. To do this, they must understand the principles of electronics and how state-of-the-art radio equipment works. They must be able to read schematic diagrams, follow detailed work procedures, and use hand and power tools. To advance, repairers must develop the analytical skills needed to diagnose the cause of equipment failure. After mastering the basic skills, the willingness to assume leadership roles helps radio equipment repairers advance through the supervisory levels of this career.

Profile: Brian Chen

Staff Sergeant Brian Chen says that he is never bored with his career as a ground radio technician because "there is always something new to learn." The constantly changing technology, he says, makes his job a challenge.

Brian liked electronics when he took it in high school, so when he joined the Marine Corps, he asked for guaranteed training in ground electronics. After boot camp and a promotion to private first class, Brian had a year of training at 29 Palms, CA, in basic electronics, cryptologic repair, radio fundamentals, and ground radio repair. At the end of the course, he was promoted to Lance Corporal.

Brian's first assignment was at Kaneohe Bay, HI, repairing and maintaining ground radios. It was not long before he became shop chief and then the technical chief of the shop. His duties included performing corrective and preventive maintenance procedures, modifications, calibrations, and supply transactions. Brian enjoyed the travel during this tour. He went on missions to the Philippines, Korea, Thailand, Australia, Guam, Wake Island, and China, and was part of the team that returned the hostages from Iran. An experience from his travels that stands out in Brian's mind is the time in Singapore when he and his fellow crew members played some New Zealand marines in a rugby match. During his 3 years in Hawaii, Brian was promoted to corporal and then to sergeant.

On his next assignment, Brian was selected for instructor duty at 29 Palms, CA, to teach the ground radio course. He was also promoted to staff sergeant. During his 2 years as an instructor, Brian went to the Staff Noncommissioned Officer Academy in Quantico, VA, where he graduated first in a class of 150. Brian then went back to being a student at the technician theory school, also at 29 Palms, to learn the engineering side of radio equipment repair. In his spare time, he took lessons in rodeo riding.

After his advanced training, Brian was made staff sergeant in charge of the multichannel VHF system at Camp Lejeune, NC. His battalion gave general support to 20,000 Marines and went on many deployments. He is now maintenance chief of 12 technicians supporting a battalion of 1,000 Marines.

SPECIALIZATION

Repairers usually specialize in one of the many types of complex communications equipment. Specialties include:

- Avionics--repairing modular, lightweight electrical and electronic radio communications devices used on modern aircraft
- Microwave--repairing fixed-base electromagnetic wave signal towers that relay information over long line-of-sight distances
- Satellite--repairing satellite dishes used to send and receive signals to and from distant points

TRAINING

The services provide radio equipment repairers with 6 to 18 months of basic and initial job training. It combines classroom instruction and on-the-job training. Classroom training includes electronic principles and concepts and the use of technical guides, tools, and test equipment. On-the-job training is given by senior repairers and shop supervisors. After gaining experience on the job, repairers usually return to the classroom for further training in repairing a specific type of equipment. Advanced training for repairers covers troubleshooting techniques, repair of modernized replacement equipment, or additional types of radio equipment.

During their career, radio equipment repairers learn supervisory skills through leadership training and job experience. This training continues through the radio repair superintendent level with courses in management and administration. Typically, these courses address budgeting, personnel management, repair shop operations, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in radio equipment repair, you may also want to consider a career as an electronic instrument repairer, data processing equipment repairer, or radar and sonar equipment repairer. See the Electronic and Electrical Equipment Repair Occupations cluster in the *Military Career Guide* for descriptions of these and other related military occupations.

Timeline

TYPICAL CAREER PATH

RADIO REPAIR SUPERINTENDENT

Highly qualified shop supervisors may advance to help officers in managing communications equipment maintenance units. Radio repair superintendents:

- Coordinate communications equipment repair and maintenance with the support unit
- Develop training programs and set training standards and procedures
- Conduct maintenance unit and repair shop inspections
- Help solve maintenance, supply, and personnel problems

17-21 yrs

REPAIR SHOP SUPERVISOR

Skilled repairers who show leadership ability may supervise a radio and communications equipment repair shop. Repair shop supervisors:

- Plan and prepare work schedules and make job assignments
- Decide on repair shop work priorities
- Observe and help repairers in work techniques
- Assign trainers for on-the-job instruction of new repairers

7-9 yrs

RADIO EQUIPMENT REPAIRER

As their skills increase, repairers take on more responsibility and perform more complicated tasks. At this level, they:

- Tune, align, and adjust communications equipment for best performance
- Use troubleshooting techniques and interpret wiring diagrams to find equipment problems
- Calibrate (adjust) electronic test equipment and other units, such as receivers and amplifiers
- Train apprentice radio equipment repairers and help with more difficult repairs
- Test radio equipment using meters, oscilloscopes (devices that measure variations in electrical current), and other equipment and instruments

3-6 yrs

APPRENTICE RADIO EQUIPMENT REPAIRER

After initial job training, apprentice repairers perform maintenance and simple repairs on voice and signal communication systems. Working under close supervision, they:

- Check equipment visually and with test instruments
- Use manuals and wiring diagrams to find faulty equipment parts
- Use hand tools to replace tubes, circuits, speakers, and parts
- Set up and operate radio equipment
- Clean and service receivers, transmitters, and other communications equipment and units

RADIOLOGIC (X-RAY) TECHNICIANS

ARMY
NAVY
AIR FORCE
COAST GUARD

Radiology (the use of X-rays) helps doctors detect injuries and illnesses and even treat some diseases. As a radiologic technician, you may take X-rays or give tests using radioisotopes (radioactive liquids) and radiation scanners (geiger counters). You begin your career performing X-ray procedures under the supervision of a physician. As you develop and master your radiologic skills and work techniques, you are assigned more difficult duties. There are opportunities to advance to radiologic supervisor and perhaps to radiologic services coordinator.

DUTY ASSIGNMENT

Radiologic technicians may be assigned to a medical service unit aboard ship, to a base hospital or clinic, or to a mobile medical unit. Nuclear medicine technicians and radiologic supervisors are usually assigned to large hospitals, since the equipment and work load at these facilities require such skilled workers. Most radiologic technicians are assigned to units in the United States, but there is good opportunity for overseas duty, especially early in a career.

ADVANCEMENT

Since X-rays expose patients to radiation, radiologic technicians must be precise and careful in each procedure. They must be able to work with sick and injured patients and obtain the proper X-rays for study by a doctor. To do this, they must be able to position patients, follow doctors' orders, and operate X-ray equipment. Mastering different techniques, such as X-ray, ultrasound, or computerized scanning, is also important for advancement in this career. Radiologic technicians show their mastery of basic skills through certification by the American Registry of Radiologic Technicians. Certification is awarded to technicians who complete the classroom training given by the military and work for 1 year under the supervision of a radiologist. After mastering the various radiologic techniques and procedures, the willingness to assume leadership roles helps technicians advance through the supervisory levels of this career.

Profile: Ernie Hughes

When Ernie Hughes joined the Navy, he had a guarantee of training in the medical field. He knew he would eventually specialize, but following boot camp, he first went to school to become a hospital corpsman. At the Great Lakes Naval Training Center, Waukegan, IL, he got what he calls "a working knowledge" of anatomy, nursing, and pharmacological chemistry. His first assignment was at the Naval Regional Medical Center, Millington, TN, caring for patients in the intensive care unit. He also worked in medical records and the dispensary, checking throats, taking temperatures, and sending patients to a doctor if he found a problem.

After a year, Ernie was assigned to the medical records unit at the Naval Regional Medical Center, New Orleans, LA. He also worked part-time in the pediatric clinic and the emergency room. As an extra duty, he flew on sea-air rescue missions with the Coast Guard. For this, he was commended for work done above and beyond the call of duty. "My time spent flying with the Coast Guard," Ernie says, "was some of the best of my career."

With 3 years as a hospital corpsman behind him, Ernie began his training for a specialty in nuclear medicine. The training was in two parts. First, Ernie attended classes in math, chemistry, anatomy, physics, and radiopharmacy at the Naval School of Health Sciences, Bethesda, MD. Then he went to the Naval Regional Medical Center, San Diego, CA, for on-the-job training in his new specialty. Under guidance, he operated and maintained radioactive isotope therapy apparatus to do imaging, blood work, and laboratory tests.

Ernie's first, and current, assignment as a clinical nuclear medicine technician was at the Armed Forces Radiobiology Research Institute, Bethesda, MD. Ernie helps medical officers prepare and conduct radioactive isotope research, often using animals as radiation models. His work has included studies of the effects of various levels of radiation on organs of the body and research on neuroreceptors in the brain.

Petty Officer First Class Ernie Hughes likes his specialty. "I had to work hard to get here," he says, "but now I have a respected career that challenges me. I am in a position to make decisions and to work on my own."

SPECIALIZATION

Radiologic technicians may specialize as either X-ray or nuclear medicine technicians. X-ray technicians operate sensitive equipment to take X-rays for doctors to study. Nuclear medicine specialists help doctors diagnose and treat patients through procedures that use radiation-producing materials. They may administer solutions or operate equipment that gives measured radiation therapy to cancer patients.

TRAINING

The services provide radiologic technicians with 12 to 24 months of basic and initial job training. It combines classroom instruction and clinical (on-the-job) experience. Classroom instruction stresses developing X-ray film, operating fixed and mobile X-ray units, and taking routine X-rays of the arms, legs, trunk, and skull. Clinical training is conducted under the supervision of a radiologist (M.D.) and a senior radiologic technician. This on-the-job training includes moving and positioning patients, completing and maintaining patients' records, and conducting soft tissue radiographs and bone surveys. Radiologic technicians may take advanced training in specialized techniques, such as angiography (images of blood vessels), xeroradiography (machines producing positive exposures), and computerized tomography CAT scans (images of a specified level in the body).

Specialists in nuclear medicine take an additional year of training. This training includes 16 weeks of classroom instruction in physics, chemistry, mathematics, and the laboratory procedures needed to work with radioactive liquids. Training also includes operating and maintaining equipment for nuclear medicine diagnosis and therapy. The rest of the year is spent in clinical (on-the-job) training to learn the application of safety, chemical, and medical techniques for different nuclear medicine studies.

During their career, radiologic technicians learn supervisory skills through leadership training and job experience. This training continues through senior management levels with courses in management, administration, and advanced technical skills. Typically, these courses address budgeting, supervisory techniques, training program development, and recent advances in the field of radiology.

RELATED MILITARY OCCUPATIONS

If you are interested in using modern technologies to help others with medical problems, you may also want to consider a career as a cardiopulmonary or electroencephalographic (EEG) technician, medical laboratory technician, or operating room technician. See the Health Care Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

TYPICAL CAREER PATH

Timeline

RADIOLOGIC SERVICES COORDINATOR

At the most senior level, radiologic technicians supervise large radiology departments. At this level, they:

- **Plan and direct training programs for radiologic aides and technicians**
- **Coordinate radiology programs and activities with other health specialists**
- **Develop guidelines for conducting standard radiologic procedures and setting work priorities**
- **Inspect radiology departments and monitor work procedures**

18-20 yrs

RADIOLOGIC SUPERVISOR

Skilled radiologic technicians who show leadership ability may be assigned to supervisory positions. As supervisors, they:

- **Give technical help to aides and technicians**
- **Assist doctors with difficult cases**
- **Plan and schedule work assignments**
- **Prepare technical, personnel, and administrative reports**
- **Supervise radiation surveying, monitoring, and decontamination control duties**

8-10 yrs

RADIOLOGIC TECHNICIAN

By mastering basic skills and completing additional training, radiologic technicians are assigned more difficult duties. At this level, they:

- **Train new personnel to use X-ray equipment**
- **Maintain and adjust X-ray equipment**
- **Collect X-rays and other tests for physicians' use**
- **Complete patients' files and store X-ray film**
- **Approve the radiograph techniques and computations of new technicians**

4-6 yrs

RADIOLOGIC AIDE

After initial job training, new radiologic staff are assigned to radiology departments of hospitals, field units, or ship dispensaries. Working under close supervision, they:

- **Move patients to and from the radiology unit**
- **Position patients on X-ray tables**
- **Load and position film holders, set controls for power and time, and take X-rays**
- **Move and set up mobile X-ray machines**
- **Develop X-ray film**

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RELIGIOUS PROGRAM SPECIALISTS

ARMY
NAVY
AIR FORCE

Religious program specialists help chaplains meet the pastoral needs of military personnel and their families. As a religious program specialist, you keep the chaplain's office running smoothly, coordinate religious activities, and manage the chapel. You begin your career typing, filing, and performing clerical duties in chapel offices. As you gain experience, you take more responsibility for organizing religious activities, such as chapel services, weddings, baptisms, and funerals. There are opportunities to advance to chapel supervisor and perhaps to chapel operations coordinator.

DUTY ASSIGNMENT

Most religious program specialists work on large military bases at base chapels and in chaplains' offices. They may also serve aboard ships or with combat forces in the field. Most religious service specialists work at bases in the United States, but there is opportunity for overseas assignment.

ADVANCEMENT

Because religious program specialists represent the chaplain in day-to-day activities, they must be mature, sincere, and dependable. They must have good typing and clerical skills and a good command of business math to run the religious program office efficiently. Religious program specialists must understand the principles of different faiths to arrange ceremonies. They must also be able to work easily with people of all backgrounds. Administrative and organizational skills become more important as a service member advances in this career. The willingness to assume leadership roles and take on added responsibility helps religious program specialists advance through the supervisory levels of this career.

Profile: Mike Kowalski

Sergeant First Class Mike Kowalski enlisted in the Army for three reasons. "I wanted to serve God, serve my country, and get experience." As a chaplain assistant, he feels he is doing all three.

In training, Mike learned the two sides of his job: administration and religious support. On his first assignment at Fort Carson, CO, Mike supported the Jewish chapel program, which included maintaining a kosher kitchen. At his second job there, he supported programs at the division artillery chapel. This job also took him with the troops on training exercises. He helped set up the field chapel tent, organize field services, and provide moral support to the troops. "This is what the job is all about," Mike says, "helping support the individual soldier." During this assignment, Mike rose to the rank of sergeant.

Mike was next assigned to a military hospital in Landstuhl, West Germany, where he served as the noncommissioned officer in charge (NCOIC) of the hospital chaplain's office. This was a busy time for Mike and his wife. Not only did they provide support to hospital patients and their families, but they also organized a full-scale chapel program for the Landstuhl community. This included conducting chapel services, religious education programs, and activities in music and drama. Mike also supervised chaplain assistants and was responsible for the chaplains' fund.

Back in the States, Mike went to Fort Knox, KY, as the NCOIC of the main post chapel. As a staff sergeant, he provided support for all the chapel programs, supervised and trained the chaplain assistants, and took care of the chapel and its equipment. When Mike was switched to the staff chaplain's office, he handled budgeting and contracting for material and equipment for the 12 chapels on the post.

Mike is now assigned to the U.S. Army Chaplains' Center and School, Fort Monmouth, NJ, as an instructor. He teaches new chaplain assistants how to support chapel activities. Mike recently returned from the Army Airborne School, where he became parachute qualified.

Mike feels that his career has provided him a unique opportunity. "I love people," he says. "My job has given me a chance to be with them and help them."

TRAINING

The services provide religious program specialists with 6 to 9 months of basic and initial job training. Training focuses on developing clerical and administrative support skills. Depend-ng on the assignment, training may be given in religious support duties. Chapel supervisors and chapel operations coordinators may receive advanced training n accounting, personnel management, and the preparation of special administrative records and reports.

During their career, religious program specialists learn supervisory skills through job experience and leadership training. This training continues through he level of chapel operations coordinator with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in service-oriented and people-to-people work, you may also want to consider other occupations in the Human Services Occupations cluster or the Service Occupations cluster in the *Military Career Guide*.

TYPICAL CAREER PATH

CHAPEL OPERATIONS COORDINATOR

Supervisors may advance to chapel operations coordinator responsible for religious program activities in subordinate commands. At this level, they:

- Prepare and conduct command briefings on religious programs
- Coordinate worship schedules and educational materials development
- Set goals, objectives, and priorities
- Visit, monitor, and review the performance of religious program specialists
- Prepare and route consolidated reports on religious program activities
- Coordinate programs with hospitals, welfare agencies, and confinement facilities

16-18 yrs

CHAPEL SUPERVISOR

Skilled specialists may advance to chapel supervisor responsible for organizing and supervising a chaplain's office. Chapel supervisors:

- Supervise religious program specialists
- Train personnel and assign them duties
- Coordinate and supervise volunteers and part-time workers
- Review correspondence and reports for accuracy and completeness
- Prepare religious packets for prisoners and hospital patients
- Coordinate recruitment and training of ushers, lay readers, and religious school teachers

6-8 yrs

RELIGIOUS PROGRAM SPECIALIST

After initial job training, new personnel are normally assigned to a base chapel where they learn to:

- Type letters, marriage records, certificates, and confirmation, baptism, and funeral records
- Prepare the chapel for religious services or special ceremonies, such as weddings, funerals, and memorial services
- Help the chaplain conduct religious services and ceremonies
- Help recruit and train ushers and religious school teachers
- Schedule the chaplain's appointments and receive visitors in the chaplain's office
- Type bulletins for worshippers and maintain office files

REPORTERS AND NEWSWRITERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Reporters and newswriters keep service members, the local community, and the folks back home informed about important events. As a reporter or newswriter, you prepare news releases, hometown news stories, feature articles, and editorials for publication or radio/television broadcast. You begin your career developing skills in researching, gathering, and organizing information. As you gain experience, you may write feature stories or news scripts. There are opportunities to advance to editor of a military newspaper and perhaps to public affairs coordinator for a large military base.

DUTY ASSIGNMENT

Reporters and newswriters work at military bases, but the stories they cover may take them all over the world. Many work at large installations, where they write press releases and public relations articles for the public affairs office. Others work for base newspapers, radio/television stations, or magazines. Most reporters and newswriters work at military bases in the United States, but there is good opportunity for overseas assignment, particularly for those assigned to the Armed Forces Radio/Television Network.

ADVANCEMENT

Reporters and newswriters must be able to interpret facts, issues, and opinions and use them to write interesting scripts, stories, and articles. They must relate easily to people with different backgrounds, since they research stories on all aspects of military life. They must also be able to select photographs and illustrations to enhance their stories and articles. Skills in public relations are also important in gaining access to servicemembers and story locations and in dealing with the civilian media. After mastering the basic journalism skills, the willingness to assume leadership roles helps reporters and newswriters advance through the supervisory levels of this career.

Profile: Charles Wright

Air Force newswriter Charles (Chuck) Wright described his year in Vietnam as a combat reporter as the most rewarding experience in his 22 year career. As a senior reporter he had orders allowing him to travel anywhere Air Force personnel were stationed. He took his orders seriously, flying in 75 combat missions and writing over 600 articles. His stories were often carried by the major wire services and appeared in newspapers across the United States. Two things make that year stand out for Chuck. First, as a military reporter, he was doing everything for which he had been trained, and second, the combat experience allowed him to get to know the many airmen who became the subjects of his stories. Chuck likes being a reporter because he enjoys writing and using his imagination. Being a reporter has allowed him to meet all types of people and deal with different events every day.

In his first assignment, Chuck advanced from "cub" reporter to sports and family page editor for the base paper at Blytheville Air Force Base (AFB), AR. During this assignment, he married his high school sweetheart and found time to complete training at the U.S. Army Information School. Not long after he was married, Chuck and his wife moved to Spain. There, after only 5 years in the Air Force, Chuck became senior reporter of the base newspaper *Alert Strip*. In addition to supervising three reporters, he spent 4 days each week working with Spanish-speaking "cahistas" (typesetters and printers) to print the paper.

Back in his home state of Florida, he spent 3 years managing publicity for over 75 Air Force recruiters. He was responsible for advertisements, managing direct mail campaigns, and working with local newspapers throughout the state. He moved back to Texas as the editor of *The AF Recruiter*, the newspaper of the Air Force Recruiting Command. During this assignment, Chuck also became the speechwriter for the generals who commanded the recruiting service.

For the past 4 years, Chuck has been a public affairs coordinator, first at Osan AFB in Korea and then for the headquarters of the Air Force Reserves at Robbins AFB, GA. He manages all aspects of public affairs, including liaison with newspapers and television.

TRAINING

The services provide reporters and newswriters with 9 to 12 months of basic and initial job training. It combines classroom instruction and on-the-job training. Classroom instruction focuses on interviewing techniques, research sources, writing style, story lines, and formats. Intensive on-the-job training given by editors and senior reporters and newswriters helps the individual progress from simple stories to difficult or unusual assignments. Many specialized training courses are available for senior reporters and newswriters in editing, photojournalism, public affairs, media relations, and radio-television scriptwriting.

During their career, reporters and newswriters learn supervisory skills through leadership training and job experience. This training continues through the public affairs coordinator level with courses in management and administration. Typically, these courses address budgeting, personnel management, and training program development.

RELATED MILITARY OCCUPATIONS

If you are interested in writing and news reporting, you may also want to consider a career as a radio and television announcer, photographer, or audiovisual production specialist. See the Media and Public Affairs Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

TYPICAL CAREER PATH

Timeline

PUBLIC AFFAIRS COORDINATOR

Public affairs coordinators assist staff officers in directing military public affairs operations. They:

- Plan, organize, and direct military news and information operations
- Determine training needs and set up public affairs training programs
- Establish information-gathering procedures and news story reporting and writing standards
- Inspect public affairs units and make recommendations to improve program operations
- Prepare administrative, personnel, and technical reports for officers

15-20 yrs

EDITOR

Highly skilled reporters and newswriters who show leadership ability are assigned supervisory responsibilities. Editors:

- Set work priorities and assign personnel to meet news deadlines
- Review work and give technical assistance
- Coordinate military and civilian news media and public information activities
- Teach classes in the principles of journalism and writing styles and techniques
- Prepare public affairs information and historical program activity records

7-8 yrs

SENIOR REPORTER/NEWSWRITER

As their skills in journalism increase, reporters and newswriters are given more responsibility. Senior reporters and newswriters:

- Schedule and conduct special interviews, news conferences, and tours for civilians
- Plan and design layouts for newspapers, bulletins, and magazines
- Proofread news releases and other material for information content and accuracy
- Edit written material and taped interviews for radio and television
- Conduct research to gather information for in-depth feature news stories

3-5 yrs

REPORTER/NEWSWRITER

After initial training, reporters and newswriters gather information and prepare news features and stories for military and civilian use. At this level, they:

- Interview individuals and attend meetings and events to gather information
- Write sports and news stories, editorials, and news releases
- Compose scripts for radio/television news reports, speeches, and commentaries
- Process and select photographs for magazines, newspapers, and publicity materials
- Write captions for pictures and compose headlines for news stories

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SPECIAL OPERATIONS FORCES

ARMY
NAVY
AIR FORCE
MARINE CORPS

Profile: Tom Wilson

When Tom Wilson received his draft notice, he could have easily received a student deferment. "But I wanted to do my part," he says, "so I decided to join the Army." Because he was small, his family and friends teased him about enlisting. To prove himself, he decided to enlist for what he thought was the toughest training available: airborne. Then, while he was at Fort Gordon training to be a heavy weapons specialist, he heard about the special forces. He applied because it was an even bigger challenge. "By the time I finished airborne and special forces training," Tom says, "I felt there wasn't anything I couldn't do."

For the next 6 years, Tom was a member of a special forces team with assignments in Fort Bragg (NC), Vietnam, and Fort Devins (MA). He started as a junior demolition man and advanced to team engineer. Tom describes his assignments as continuous training. He went on field exercises all over the world, learning jungle operations in Panama and northern warfare in Alaska. He even went to school to learn French and Spanish. Vietnam, Tom says, was the time he was finally able to put his training to work, a modest statement from a Green Beret with a purple heart and two bronze stars. Throughout his career, Tom has had further training in operations and intelligence, advanced engineering, and leadership, but he feels that he learned the most during his years as a member of a special forces team.

Tom spent the next 3 years as an engineering sergeant for Army battalions on Okinawa and at Fort Bragg, NC. He coordinated with other Army units to supply equipment and support for battalion activities. At Fort Bragg, Tom was promoted to first sergeant and assigned as operations sergeant for a special forces team. He was then assigned as a first sergeant at the Headquarters of a battalion in Korea. In this job, Tom supervised over 200 people providing administrative support to the battalion. He returned to the States as battalion intelligence sergeant for the 82nd Airborne.

In his current job as a combat development project noncommissioned officer (NCO), Tom evaluates new techniques, equipment, and methods for the special forces. He was recently promoted to sergeant major, a goal he set for himself after returning from Vietnam.

Special operations team
highly trained combat
carry out especially difficult an
missions. To qualify for sp
tions, you must complete an in
cal conditioning program. A
operations team member, y
combat and survival tactics in
climates and environments
swamps, deserts, or underw
may raid enemy positions, go
or rescue missions, or under
tion operations. There are opp
advance to special operations
and perhaps to special operat
nator.

DUTY ASSIGNMENT

After qualifying for special
the new team member is ass
special operations unit for his
Army Green Berets, the Navy
Air Force Pararescue Teams,
rine Corps Force Reconnaissa
The units are small select forc
number of duty assignments
However, the units may be
train or perform missions anyw
world.

RELATED MILITARY OCCUPATIONS

If you are interested in a spe
tions career, you may also w
sider the other Combat Special
tions described in the *Milita*
Guide. Other similar military o
are found throughout the *Mili*
Guide. These occupations inc
cal service technician, diver, ra
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ADVANCEMENT

The competition for getting into and advancing in the special operations forces is keen. To succeed, special operations team members must be decisive, creative, and self-reliant. They must show resourcefulness and quick action in rapidly changing and dangerous situations. They must be able to communicate ideas effectively, recall detailed instructions, and analyze new problems quickly. In addition, team members must keep themselves in top physical condition.

All special operations candidates are required to complete job training in another military occupation before entering this career. Many serve for several years in another occupation before volunteering for special operations forces. Many also return to their original occupation after serving in special operations.

Advancement to more senior levels of special operations calls for the ability to direct and coordinate several critical activities at the same time. For example, an individual may coordinate the ground activities of a special operations team while directing close tactical air support or cargo delivery.

SPECIALIZATION

The demanding nature of special operations missions calls for team members to focus their training. Search and rescue missions call for skills in survival, parachuting, and evasion of enemy forces. Underwater demolition missions require skills in scuba diving and the use of explosives. Guerrilla warfare requires training in special weapons and small group combat and infiltration tactics.

In special operations units, each team member usually concentrates on one area, such as engineering, intelligence, communications, or medical services. However, most are trained and skilled in more than one area to back up other team members.

TRAINING

The services provide 12 to 24 months of special qualifications training to volunteers selected for special operations duty. The initial phase of training stresses physical conditioning. This is among the most challenging training given by the services; not everyone who attempts this training can meet the strict requirements for completion.

In addition to physical conditioning, training is given in reconnaissance, unconventional warfare, small unit tactics, and the use of special weapons. Special skills training may also be given in parachuting, scuba diving, and survival techniques. On-the-job training is conducted through practical field exercises in different climates and terrain, including mountains, swamps, and winter conditions. Specialized training is also given to prepare teams for individual missions.

TYPICAL CAREER PATH

Timeline

SPECIAL OPERATIONS COORDINATOR

Team leaders may advance to coordinate the activities and training of special operations forces teams. At this level, they:

- **Plan unit training or formal special operations forces training courses**
- **Plan and coordinate multiteam operations**
- **Assign teams to specialized areas of assignment**
- **Develop and evaluate new procedures and techniques**
- **Recruit and organize friendly foreign personnel for special operations**
- **Advise special forces commanders on planning missions**

15-20 yrs

TEAM LEADER

Highly skilled and motivated team members can advance to team leader. Special operations team leaders:

- **Train team members in communications, combat tactics, and intelligence gathering**
- **Assign specific mission tasks to team members**
- **Instruct allied (friendly) forces in the use of weapons and guerrilla tactics**
- **Collect, interpret, and distribute intelligence information**
- **Plan air rescue, air delivery, and other airborne operations**
- **Plan and lead sabotage and combat raids in enemy territory**

6-8 yrs

TEAM MEMBER

After initial special operations training, special operations team members are assigned to small elite units where they continually train to improve their special skills. Team members:

- **Go on reconnaissance (scouting) missions to identify terrain features and spot enemy troop and gun positions**
- **Infiltrate (go behind) enemy lines to carry out demolition raids or attack enemy positions**
- **Plant or clear mine fields on land and under water**
- **Carry out rescue and recovery operations for stranded or trapped servicemen**
- **Give regular and emergency medical treatment in the field**

This career is not open to women

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General Information on Officer Careers

General Information on Officer Careers

GENERAL INFORMATION ABOUT OFFICERS

Since 1973, the Army, Navy, Air Force, Marine Corps, and Coast Guard have relied on volunteers to fill approximately 25,000 officer job openings each year. This makes the military a major employer of college graduates entering the work force full-time. In total, there are about 300,000 men and women officers in the Armed Services.

Officers are the professional leaders of the military. They plan and direct the activities of their service. Under their leadership, enlisted personnel train, support and participate in field exercises. Enlisted personnel, on the other hand, are the workers who carry out the day-to-day operations of the military. Enlisted personnel are usually high school graduates and required to meet minimum standards, such as physical and aptitude requirements, before enlisting. The qualifications required for enlistment are described in the "General Information on Enlisted Occupations" section of the *Military Career Guide*.

New officers are usually college graduates with bachelor's degrees. They must meet the physical, academic, and moral standards set by their service to be accepted into programs for becoming an officer (commissioning programs). The qualifications required for acceptance into the various programs are described in the "General Information on Officer Occupations" section of the *Military Career Guide*.

Officers usually begin their career gaining experience in their chosen occupational field. Working closely with more senior officers, they also begin supervising small groups of enlisted people. As officers become experienced and advance in responsibility and rank, they direct more enlisted personnel, begin to lead other officers, and may eventually become the senior leaders and managers of the military. Commanding officers are responsible for every detail of U.S. ground and naval forces, ships, flying squadrons, and amphibious assault forces.

OFFICER OCCUPATIONS

Officers lead and manage activities in every occupational specialty in the military. They must be able to learn detailed information quickly to be effective in the changing assignments and environments they will experience during their careers.

One of the characteristics of the successful leader is willingness to serve. Officers serve their country daily, sometimes placing themselves in danger. They are responsible for the well-being, training, and readiness of the people they lead.

Officers are also trained in specific occupational skills. They manage the military supply system and care for the health of combat and support personnel and their dependents. They analyze military intelligence and lead technicians on land or aboard ship.

Some officers, such as infantry and submarine officers, work in jobs directly related to combat. These occupations are open only to men. In other occupations, certain combat-related duty assignments are also closed to women. According to federal law and policy, women may not be assigned to duty where there is a high probability of direct exposure to combat.

Many men and women in the military work in occupations that support the combat forces. They are essential to the readiness and strength of the combat forces.

Together, the five services offer employment opportunities in over 1,500 officer job specialties. They are grouped into 71 occupations in the *Military Career Guide*. Each description summarizes similar jobs across all services, giving general information about the nature of the job, the training provided, and the work environment.

The services offer training and opportunities to advance in each occupation. No matter which occupation newly commissioned officers enter, they find a well-defined career path leading to increased responsibility and higher pay. The following section of this book, *Military Career Paths*, presents career descriptions for 13 of the 71 officer occupations shown in the *Military Career Guide*. The 13 descriptions include at least one occupation from each of the nine major groups of officer occupations. They are illustrative of the careers for all 71 officer occupations shown in the *Military Career Guide*.

OFFICER ADVANCEMENT

A career as an officer can be exciting and rewarding. It will certainly be challenging. Officers advance by constantly improving their knowledge, occupational and leadership skills, and by taking on greater responsibilities. The key to advancement is outstanding performance in every area.

Advancement means recognition of excellent performance, promotion to more responsible duties, and an increase in rank and pay grade. Figure 3, on the following page, shows the insignia for the ranks in each service. It also depicts the relationship between rank and pay grade.

OFFICER PROMOTION

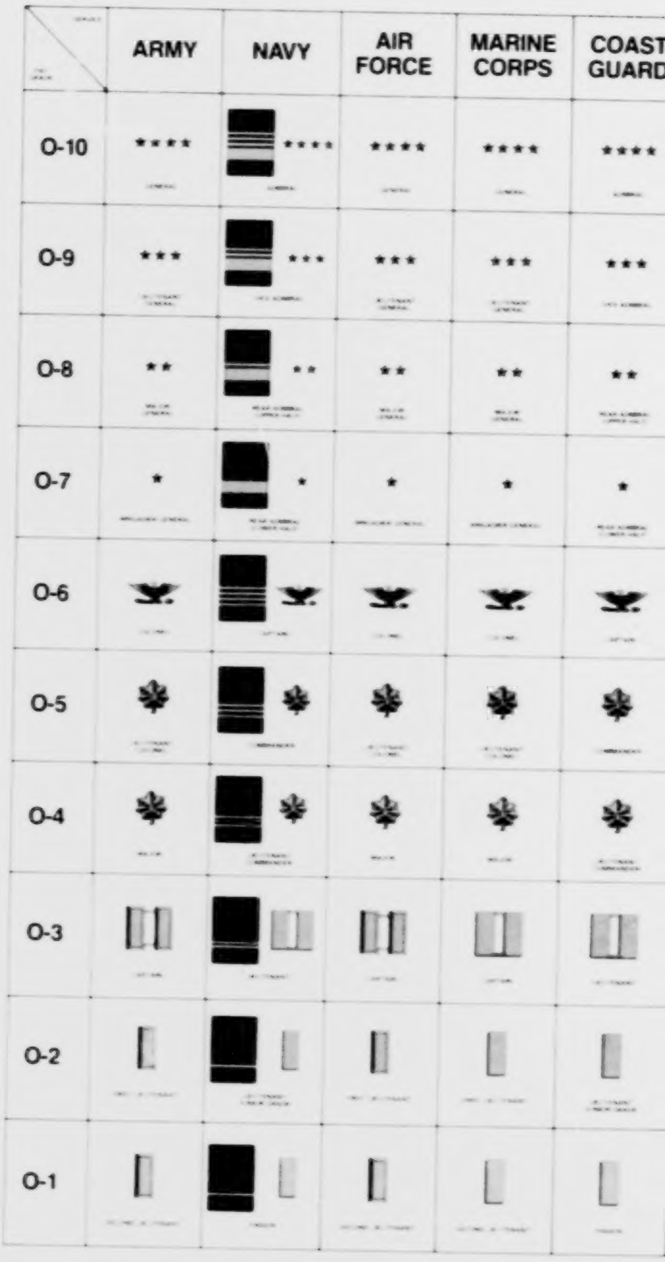
Officers in the lower pay grades (O-1 and O-2) usually advance by the action of administrative boards. The boards screen the officers' performance records. They ensure that all necessary qualifications are being completed, that officers are recommended for promotion by their commanding officers, and that candidates have spent the required time in a pay grade. Usually, the competition for promotion at this junior level is not intense. However, early career performance becomes important as competition increases for promotion to more senior ranks.

Officers are continually evaluated by more senior officers. Individual performance is compared with the performance of all other officers of similar pay grade and occupation. At the O-3 level and above, a selection board thoroughly examines every aspect of each officer's career performance to select only the best qualified officers for promotion.

Selection boards are made up of experienced senior officers. Each selection board evaluates performance from the time each officer entered the service to the time the board meets. The members of the selection board evaluate each officer's record for promotion. Factors that qualify officers for promotion include:

- Career-long performance of job duties, leadership, and management
- Pursuit of, and success in, positions of increasing responsibility
- Successful completion of required qualifications and professional military education
- Appearance and behavior

Figure 3
Officer Insignia of the United States Armed Forces



By selecting the best qualified officers for promotions, the services ensure they have the best possible leadership. Excellent performance reports are essential to career advancement. Although a series of excellent performance reports does not guarantee an individual's promotion, a less-than-excellent record severely limits chances for advancement. Since the number of officer positions is limited by Congress, the competition at senior levels is intense.

Figure 4 shows the average time an officer has been in the military (time-in-service) when he or she is promoted to each pay grade. For example, most officers will advance to O-2 in two years and to O-4 in 10 years. A very few outstanding officers may be selected for promotion earlier than indicated.

SERVICE SUPPORT FOR CAREER ADVANCEMENT

From the time officers are commissioned until their last day of duty, the services play an important role in supporting their career development. The military offers a wide range of training and development opportunities to help each officer build a career. However, to succeed, officers must take advantage of the opportunities provided.

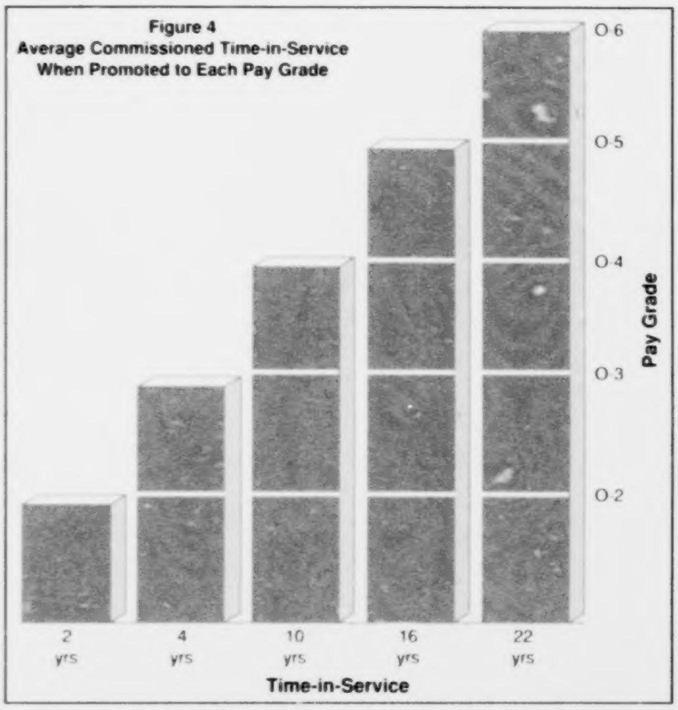
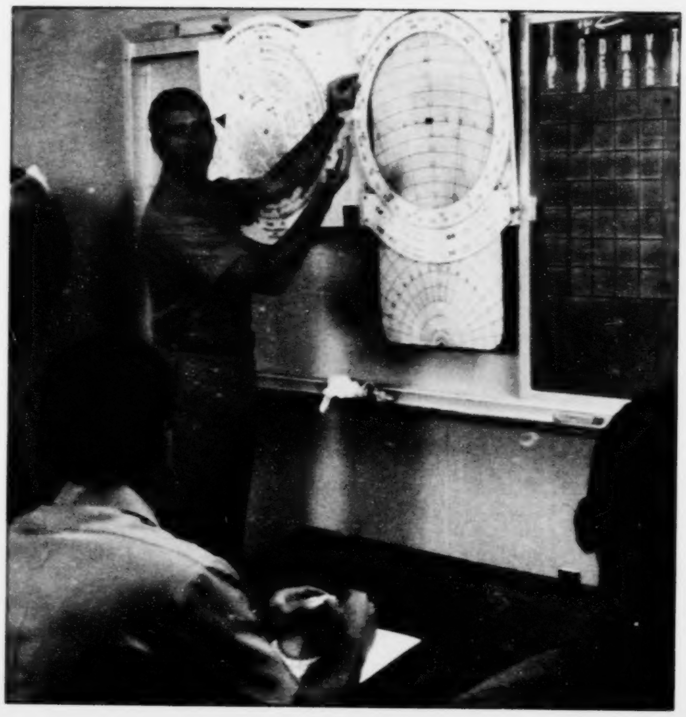


Figure 4
Average Commissioned Time-in-Service When Promoted to Each Pay Grade



Training

The military operates one of the large
training programs in the world. The fi
services run technical schools, profe
sional training programs, universities, a
graduate schools. Civilian employers a
educators agree that military educatio
and training programs are among the be
available.

Education and training provided by th
services offer officers valuable opportu
ties for career development. The milita
spends billions of dollars each year to tra
servicemembers for careers in occup
tions ranging from pilot to physician. T
main purpose of this training is to prepa
individuals to perform their jobs in the se
vice. Training and advanced training als
help individuals meet personal goals a
prepare them to assume greater respo
sibility.

Training begins with commissionin
programs that prepare men and women
be military officers. After successfu
completing such programs, applicants a
commissioned as officers in their servic
The different programs are describe
more fully in the "General Information o
Officer Occupations" section in the *Milita*
Career Guide.

Initial Job Training

Following commissioning, officers us
ally attend a service school to prepa
them for their first assignment in their o
cupational field. The type of training de
pends on the occupation. Officers who a
already qualified in their field, such a
lawyers and nurses, receive training t
familiarize them with their service's opera
ing policies or to learn unique require
ments. Officers who need to learn the

chosen military occupation, such as airplane navigators or submarine officers, may receive more extensive training in basic and advanced skills. The skills and tasks required by a specific job determine the length of initial training. Training may take from 1-1/2 to 24 months, depending on the occupation.

On-the-Job Training

Officers receive on-the-job training throughout their career. When they assume a new assignment, they usually talk with the officer leaving the assignment about problems, proven methods of operation, and the personnel who are assigned to the job.

In each duty assignment, officers take the initiative to talk with their peers, more senior officers, and commanding officers about their work and methods. They practice and perfect their leadership and occupational skills, and they benefit from the experience and knowledge of those in command.

Advanced Training

There are advanced training courses for virtually every officer occupation. These courses fall into two basic categories. In the first category are those courses that teach the technical or administrative skills needed for an officer's next assignment. For example, transportation officers with truck and vehicle experience may receive training in landing craft maintenance management before they are transferred to a landing craft assignment.

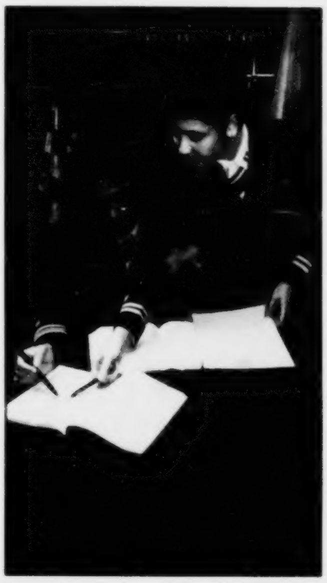
In the second category are the courses that train officers in the overall mission of their occupation. For example, infantry officers need instruction in coordinating combat actions with artillery and aircraft units; ship officers need to learn how to coordinate the operations of ships and aircraft to hunt submarines.

Professional Military Education

Professional military education (PME) prepares officers for the increasingly challenging leadership, planning, operations, and management responsibilities they assume as they rise in rank. PME is highly recommended for career-oriented officers, regardless of their occupational specialty.

PME courses teach techniques for combat and combat-support operations in battle. Officers study military history, strategy, tactics (how to maneuver forces on the battlefield), planning, and organization. They learn how each service supports the others, and how the services work together to defend our nation.

PME is divided into courses of study that correspond to specific points in career development. Officers may be selected to attend full-time resident programs to complete PME. If not, they are strongly encouraged to complete the courses by correspondence. Resident PME courses are usually taught at service "war colleges." Each service has its own PME programs, but the levels of instruction and many subjects are similar. There are even opportunities for members of one service to attend full-time resident programs at the school of another service.



Leadership Training

Officers receive leadership training throughout their career. There are formal courses in leadership and management, and leadership is discussed in many occupational courses. Additionally, officers receive advice and on-the-job instruction in leadership from more senior officers.

Career Development, Guidance, and Counseling

Traditionally, officers receive career and professional counseling from their commanding officers. One of the commanding officer's most important tasks is developing officers professionally for the future benefit of both the officers and the service. The commanding officer's senior assistants also help with this task.

A second source of career guidance is the service occupational assignments officer. The officers in this position are trained to help match the needs of the service for specifically qualified individuals with the career needs and preferences of officers.

The services also provide officers with various career guidance publications. Officers usually consult many of these resources before making career decisions.

Continuing Education

The services recognize the value of both military and civilian education. Military training helps officers do their jobs and develop their leadership and management skills. Advanced civilian education can improve officers' technical, managerial, and operational expertise.

The services offer some fully funded advanced degree programs through service-operated or affiliated colleges and universities. The services may also provide up to 75 percent of tuition costs of courses taken at a state or private institution, depending upon the availability of funds. In such cases, the officer is reimbursed after successfully completing the courses. A graduate degree does not guarantee promotion, but an officer with an excellent performance record and an advanced degree is more likely to advance.

DUTY ASSIGNMENT

The five services have similar systems for assigning personnel to jobs. Each system is designed to satisfy the present and future staffing needs of the particular service. For example, if the service needs a meteorologist or pilot at a remote location, officers in those occupations will be assigned there. However, at the same time, the services also attempt to meet the desires of individuals and provide the best opportunity for career development. The duty assignment process determines where officers work, how often they move, and the opportunities open to them.

Assignment Decisions

The services use mid- to senior-level officers who are familiar with a particular occupation to manage assignments for officers in that occupation. Assignment officers try to assign officers to different units to give them a range of experience. Both range and depth of experience are important to officer advancement. Although these officers cannot always meet each person's needs or desires, they try to make duty assignments that will enhance each officer's career.

Possible Location

Officers are stationed in each of the 50 states and in countries all over the world. They are routinely transferred after one-, two-, three-, or four-year tours of duty. To many people, this is one of the attractive parts of service life and they join for the opportunity to travel, live in foreign countries, and see different parts of the United States. Nearly three quarters of all service personnel are assigned to duty in the United States. Every service also has people stationed overseas; most of them are located in Europe, in countries such as West Germany, Great Britain, and Italy. Many officers are also assigned to the Pacific Islands, including countries such as Japan and the Philippines. Typically, officers will have two overseas assignments during their career.

Length of Tours

The time that an officer spends at a particular duty assignment is called a tour. The length of a tour varies by service and geographic location. Typically, a tour lasts from three to four years, although there are many exceptions.

WOMEN OFFICERS

Today, women have the opportunity to serve as officers in the professional leadership ranks of the military. Women officers serve in many traditional and nontraditional occupations such as nurse, airplane pilot, and nuclear engineer. Women are now eligible to enter about 95 percent of all officer job specialties.

As occupational opportunities for women in the military have increased, so have the number of women officers. Over the past 14 years, the number of women serving as officers has increased from 4 percent to about 10 percent of active duty officer personnel. The total number of women officers rose to a new high of over 32,000 in 1987.

Advancement opportunities are good for women officers. When compared to men, the average time in service when promoted to each pay grade is the same or slightly less for women. Also, women continue in the service at roughly the same rate as men.

According to federal laws and policies, women may not be assigned to duty that involves a high probability of exposure to direct combat. Occupations in this book that are not open to women are indicated at the bottom of the "Time Line" in each occupational description. Despite federal laws and policies, the military's commitment to integrate women into the military has never been greater and suggests that the future will provide even greater opportunities for women in the military.

Table 3 – 1989 Basic Pay for Officers (Annual Figures)

Pay Grade	Years of Service								
	Under 2 yrs	2	3	4	6	8	10	...	26
O-9	*	*	*	*	*	*	*	...	$82,500
O-8	*	*	*	*	*	*	*	...	75,480
O-7	*	*	*	*	*	*	*	...	66,612
O-6	*	*	*	*	*	*	$39,660	...	58,524
O-5	*	*	*	*	*	*	35,052	...	*
O-4	*	*	*	*	*	$31,548	33,708	...	*
O-3	*	*	$25,368	$28,068	$29,412	30,468	32,112	...	*
O-2	$18,504	$20,220	24,288	25,104	25,620	*	*	...	*
O-1	16,068	16,728	20,220	*	*	*	*	...	*

*Military personnel with this many years of service will probably not be in this pay grade. (Pay scale between 10 and 26 years not shown).

PAY AND BENEFITS

Military officers in all five services are paid according to the same pay scale and receive the same basic benefits. Military benefits are set by Congress, which normally grants a cost-of-living pay increase once each year. In addition to pay, the military provides many of life's necessities, such as food and housing, or it pays monthly allowances for them. The following sections describe military pay, allowances, and benefits in more detail.

Basic Pay

The major part of an officer's paycheck is basic pay. Pay grade and total years of service determine an officer's basic pay. Table 3 contains information on annual basic pay as of 1989. Using this table, you can find that a person who has been in the service for eight years, and advanced to pay grade O-3, receives a basic pay of $30,468 per year.

Incentives and Special Pay

In addition to basic pay, the military offers incentive and special pay for certain types of duty. For example, incentives are paid for submarine and flight duty. Other types of hazardous duty with monthly incentives include parachute jumping, flight deck duty, and explosives demolition. In addition, the military gives special pay for sea duty, diving duty, duty in some foreign countries, and duty in areas subject to hostile fire. Special pay is also provided for officers in certain occupations, such as doctors, dentists, and veterinarians.

Allowances

Many officers and their families live free of charge in military housing on the base where they are assigned. Those living outside of the base receive a housing (quarters) allowance in addition to their basic pay. In 1989, the monthly housing allowance ranged from $269 to $755, depending on pay grade and number of dependents. Each officer also receives a food (subsistence) allowance of $120 per month. Because allowances are not taxed, they provide a significant tax savings, adding to their cash value.

When added together, housing and food allowances, along with their tax savings, are substantial additions to basic pay. Table 4 contains information on the total value of basic pay, allowances, and tax savings, called Regular Military Compensation. The table represents the amount of pay a civilian worker would need to earn to realize the same "take home" pay as an officer. These figures are a more realistic basis for comparing military and civilian wages than the figures in Table 3. Using this table, you can find that a person who has been in the service for eight years, and advanced to pay grade O-3, receives regular military compensation of $40,483 per year.

Table 4 -- 1989 Regular Military Compensation (Annual Figures)

Pay Grade	Years of Service								
	Under 2 yrs	2	3	4	6	8	10	...	26
O-9	*	*	*	*	*	*	*	...	$91,108
O-8	*	*	*	*	*	*	*	...	90,125
O-7	*	*	*	*	*	*	*	...	85,575
O-6	*	*	*	*	*	*	$55,026	...	74,074
O-5	*	*	*	*	*	*	48,920	...	*
O-4	*	*	*	*	*	$43,549	45,911	...	*
O-3	*	*	$35,366	$38,065	$39,408	40,483	42,193	...	*
O-2	$26,544	$28,406	32,786	33,603	34,130	*	*	...	*
O-1	22,869	23,530	27,361	*	*	*	*	...	*

Regular Military Compensation reflects basic pay, allowances, and the value of the tax advantage for allowances.

*Military personnel with this many years of service will probably not be in this pay grade. (Pay scale between 10 and 26 years not shown)

Employment Benefits

Military officers receive substantial benefits in addition to their pay and allowances. While they are in the service, officer benefits include health care for themselves and their dependents, 30 days of paid vacation per year, legal assistance, recreation programs, educational assistance, and commissary/exchange (military store) privileges. Military family members also benefit from these privileges.

Retirement Benefits

The military offers one of the best retirement programs in the country. After 20 years of active duty, persons may retire and receive a monthly payment equal to 40 percent of their average basic pay for their last five years of active duty. Persons who retire with more than 20 years of service receive higher pay. Other retirement benefits include medical care and commissary/exchange privileges.

Veterans' Benefits

Veterans of military service are entitled to certain veterans' benefits set by Congress and provided by the Veterans Administration. In most cases, these include hospitalization, home loans, survivor benefits, educational benefits, disability benefits, and assistance in finding civilian employment upon separation from the service.

Examining Officer Career Descriptions

The previous section provided general career information about military officer personnel. Officers have typically chosen a career direction before entering the military and usually have a college education. Opportunities to build on this foundation through further education and training enables individuals to advance in their chosen careers while serving their country. As you read the specific career descriptions that follow, keep in mind that the military offers many opportunities for change and advancement.

Read the profile for Lance Hogan on page 92 in the description of "Airplane Pilots." His experiences illustrate how one person advanced as an officer. For example:

- Lance made a decision early in life to be a military airplane pilot. He prepared by completing college before joining the Air Force.
- Because Lance chose to specialize as an attack flyer, he had several duty assignments overseas.
- Competition for promotion in this field is stiff. Lance demonstrated that he was not only a superior pilot, but also a capable manager.
- Throughout his career, Lance has received continual technical training. In preparation for meeting his goal of commanding a squadron, Lance is completing a master's degree.
- Lance was selected to fly with the Thunderbirds flight demonstration team. This is an accomplishment very few pilots achieve.

Questions to Consider

Ask yourself the following questions as you read each officer career description:

Would I like to have a career in this occupation?

If what you read in the description and typical career path interested you, learn more about it and related officer occupations in the *Military Career Guide*.

How much training and retraining is necessary to succeed in this career?

All officers receive training throughout their careers. Lance Hogan not only chose to obtain a great deal of advanced technical training, but also took advantage of graduate education offered through the military.

How can I advance in rank and responsibility?

Military officers must consistently have excellent performance appraisals to advance. In studying the typical career path for an airplane pilot, it indicates that becoming a command pilot requires not only being an outstanding pilot, but a leader who can handle planning, management, and decision making responsibilities.

Sample of Military Officer Career Descriptions

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AIRPLANE NAVIGATORS

NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Airplane navigators are vital flight crew members of some of the world's most sophisticated airplanes. As a navigator, you will operate complex electronic navigation systems to bring your airplane safely through its missions. You may also operate weapons systems. You begin your career in a squadron, flying on missions such as air combat, ground attack, submarine hunting, paratroop, or cargo delivery. As you become more experienced and skilled, you will serve in positions of increasing responsibility. There are opportunities to become a squadron commander.

DUTY ASSIGNMENT

Airplane navigators fly in airplanes to and from military bases in the U.S. and overseas. Some fly in airplanes that take off and land on aircraft carriers at sea. Navigators are usually assigned to flying squadrons made up of 10 to 25 airplanes and the crews needed to fly and maintain them. Navigators who fly on long-range airplanes such as bombers, tankers, and transports are usually assigned to bases in the U.S. These navigators have good opportunities for overseas flights. Navigators of fighter, fighter bomber, or ground attack airplanes have excellent opportunities for overseas duty, particularly in Europe and the Pacific Islands. At some point in their career, navigators are usually assigned to a job that does not require them to fly. These assignments may be with headquarters staff or in a different occupation entirely.

RELATED MILITARY OCCUPATIONS

If you are interested in a career as an airplane navigator, you may also want to consider a career as a helicopter pilot or airplane pilot. See the Transportation Occupations cluster in the *Military Career Guide* for descriptions of these occupations. The career of airplane pilot is also described in the next military career description.

Profile: Greg Martin

Greg Martin grew up in Oklahoma, the son of a former Marine. He went to college on a football scholarship and after graduation, he decided to become an officer in the Marines. Greg went to Officer Candidate School and says, "The school was all I expected, challenging, to say the least." His career ambition was to fly and he earned his "wings" as a navigator in Pensacola, FL. Greg and his wife particularly enjoyed their first tour of duty in Hawaii.

Greg flew with several F-4 Phantom squadrons. His assignments took him to the Marine Corps Air Station at Beaufort, SC, Iwakuni, Japan, Europe, and other bases around the United States. Greg also flew with his pilot to learn how to land on Navy aircraft carriers.

Professionally, Greg loved flying, but he also liked leading the maintenance troops in his squadron. He led the radar shop and later the avionics division, handling all electronic equipment. "There is a real sense of accomplishment in taking a group of men, a bunch of parts, and working together to produce 'up' (fully capable) airplanes."

A highlight of Greg's career came when he was selected to attend the Navy Fighter Weapons School, popularly called "Top Gun," in Miramar, CA. He and his pilot spent 5 weeks flying every air combat maneuver possible. They then went on as a team to the Marine Corps Weapons Training Instructor Course in Yuma, AZ. There they practiced F-4 attack missions, including electronic warfare and air combat.

Greg held a number of increasingly responsible jobs in each squadron, ending with an assignment as squadron maintenance officer. This assignment was the best of his career. Greg says, "An officer must be a leader. We manage things, but we lead people. There is nothing more rewarding."

Today Greg is completing a tour at Marine Headquarters in Washington, D.C. As a lieutenant colonel, he is looking forward to returning to flight operations and hopes eventually to command a squadron.

ADVANCEMENT

Airplane navigators must have excellent concentration to operate sophisticated electronic navigation, communications, computer, and radar equipment for long periods of time. They must be able to keep their concentration during strenuous flight maneuvers. They need to know manual navigation techniques as a backup for automated equipment. They may also have to locate and track aerial, submarine, or surface targets and to operate weapons systems. The ability to work as a team with their pilot and other air crew is essential.

To advance in rank, navigators must have superior records of performance throughout their careers and be proven leaders. They must use their initiative to develop their skills, complete advanced education, and seek leadership positions within their squadron. Their performance in nonflying duty assignments will also be critical for advancement.

Navigators compete with their peers for promotions and career-enhancing assignments. Only the best-qualified personnel are selected for advancement and competition intensifies with each increase in rank.

SPECIALIZATION

Airplane navigators usually specialize in one type of airplane throughout their career. The basic airplane types include:

- High-performance jet fighters, fighter-bombers, or ground attack planes
- Long-range, strategic bombers
- Large tanker airplanes that provide in-flight refueling
- Special high-altitude reconnaissance planes
- Medium- or long-range antisubmarine patrol planes
- Long-range, multiengine heavy transport planes

When assigned to nonflying duty tours, airplane navigators often specialize in areas that will help them in senior staff positions later in their careers. These "second careers" may be in areas such as engineering, computer science, or personnel management.

TRAINING

Initial training for airplane navigators includes about 12 months of demanding classroom and in-flight training. Training covers navigation, communications, principles of flight, major airplane systems, meteorology, and flight operations. Student navigators are given experience in day, night, aerobatic, and basic military airplane missions. After initial training, navigators are given advanced training in one type of airplane, such as a fighter, ground attack, bomber, reconnaissance, or transport plane. Navigators must continue on-the-job flight training throughout their careers.

Advanced training is available in areas such as ground attack tactics, dogfighting (air-to-air combat tactics), and air battle management. Navigators receive transition training whenever their airplane is modified or replaced by a new airplane. There are opportunities to attend graduate school for advanced technical or management degrees.

Navigators are also given opportunities for professional military education to prepare them for senior officer positions. These programs include study in military subjects such as strategy, tactics, and planning large-scale operations. They may be completed either by correspondence or full-time study.

TYPICAL CAREER PATH

Timeline

SQUADRON COMMANDER

Flight operations directors who have excellent navigation experience and who are outstanding leaders may advance to senior positions. At this level, they:

- Command a squadron, flight operations group, or air facility
- Advise headquarters commanders on squadron operations matters
- Fly missions to maintain their skills
- Direct flight operations of a major command

15-18 yrs

FLIGHT OPERATIONS DIRECTOR

Senior navigators who are expert in navigation and their flying missions and who are outstanding leaders may advance to flight operations director. At this level, they:

- Plan squadron flight missions
- Teach flight crews advanced mission operations and tactics
- Manage a squadron department, such as maintenance, training, or safety
- Advise squadron commanders on readiness of aircraft and crews
- Evaluate officers' flying, leadership, and management skills

9-11 yrs

SENIOR NAVIGATOR

After mastering the requirements of their assigned mission area and gaining experience as leaders, navigators may advance to senior navigator. At this level, they:

- Plan and accompany their pilots on operational missions
- Instruct new navigators in their squadron duties and responsibilities
- Guide strategic bombers to their targets
- Teach student navigators how to use weapons systems and navigate
- Explain mission plans and assignments to flight crews

4 yrs

NAVIGATOR

Navigators who earn their wings are assigned to a flying squadron. Depending on the type of airplane and mission, they:

- Locate and track land targets, aircraft, ships, or submarines
- Monitor automated navigational systems using manual navigation techniques
- Operate communications equipment
- Plan missions and tactics with their pilots, considering weather, fuel, and aircraft loading
- Practice normal and emergency operating procedures

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AIRPLANE PILOTS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Military pilots fly the most sophisticated combat and transport airplanes in the world. As a pilot, you will plan flying missions, brief your aircrews, and fly frequently to keep your performance at its peak. You begin your career in a squadron, flying the airplane you were trained to fly—a supersonic jet fighter, high-altitude reconnaissance plane, or huge cargo transport. As you gain experience and skill, you will serve in positions of increasing responsibility. There are opportunities to become a squadron commander.

DUTY ASSIGNMENT

Airplane pilots fly their airplanes to and from military bases in the U.S. and overseas. Some fly airplanes that take off and land on aircraft carriers at sea. Pilots are usually assigned to flying squadrons made up of 10 to 25 airplanes and the crews needed to fly and maintain them. Pilots of long-range airplanes, such as bombers, tankers, and transports are usually assigned to bases in the U.S. These pilots have good opportunities for overseas flights. Pilots of fighter, fighter-bomber, or ground attack airplanes have excellent opportunities for overseas duty, particularly in Europe and the Pacific. At some point in their career, pilots are usually assigned to a job that does not require them to fly. These assignments may be with headquarters staff or in a different occupation entirely.

RELATED MILITARY OCCUPATIONS

If you are interested in a flying career, you may also want to consider a career as a helicopter pilot or an airplane navigator. See the Transportation Occupations cluster in the *Military Career Guide* for descriptions of these occupations. The career of airplane navigators is also described in the previous military officer career description.

Profile: Lance Hogan

Lieutenant Colonel Lance Hogan knew he wanted to be a fighter pilot from the time he was young. Hearing the stories of his two uncles who had flown fighter planes in World War II and seeing the Thunderbirds flight demonstration team sparked his interest. Lance worked his way through college in Louisiana. When he received his degree, he joined the Air Force.

Lance was first in his flight training class. He chose to specialize in the A-7 Corsair II attack fighter, flying as the on-scene commander for search and rescue operations. His first assignment was to one of the original Flying Tiger squadrons.

Lance really enjoyed the demanding search and rescue missions. He practiced ground attack and coordinating artillery, naval gunfire, air strikes, and other resources required to rescue air crews shot down in enemy territory. During this tour he was promoted to captain.

After a year of special staff training in Washington, D.C., Lance went back to flying, this time in the F-4 Phantom II. Lance served a 1-year tour at Taegu Airbase in Korea. As the squadron scheduling officer, he managed all flight training requirements for the squadron. During this tour he was promoted to major.

His duties at Taegu prepared him for his next assignment at MacDill Air Force Base (AFB), FL. Here, Lance taught pilots who had just earned their wings air-to-ground combat tactics. He also learned to fly the new F-16 fighter and became one of the first instructor pilots for this aircraft.

At MacDill, Lance was selected for very special duty. He and his family moved to Nellis AFB, NV. In an unusual tour, Lance flew 4-1/2 years with the elite Thunderbirds flight demonstration team. Normally, pilots who are selected to join the Thunderbirds only stay 2 years. Lance toured Europe, South America, and almost all 50 states, including Alaska and Hawaii.

Now with Air Force staff at Langley AFB, VA, Lance coordinates all activities of Air Force tactical demonstration aircraft and squadrons worldwide. In his off-duty time, he is completing a master's degree in aerospace science. "I like my job now," he says, "but I am looking forward to flying again." He hopes to command a squadron sometime in the near future.

ADVANCEMENT

Airplane pilots must be outstanding fliers. They must be able to fly their airplanes safely through the maneuvers required by their missions. They must be expert in their plane's fuel, flight control, electrical, and weapons systems. All pilots are regularly tested on their knowledge of airplane systems in written examinations, "check flights," and in-flight simulators.

To advance, pilots must be superb aviators and maintain their skills throughout their career. They must have consistently excellent flying records and be proven leaders. Pilots are expected to use their initiative to develop their skills, complete advanced education, and seek leadership positions in their squadron. Their performance in nonflying duty assignments will also be critical for advancement.

Pilots compete with their peers for promotion and career-enhancing assignments. Only the best-qualified personnel are selected for advancement and competition intensifies with each increase in rank.

SPECIALIZATION

Airplane pilots usually specialize in one type of airplane throughout their career. The basic airplane types include:

- High-performance jet fighters, fighter-bombers, or ground attack planes
- Long-range, strategic bombers
- Large tanker airplanes that provide in-flight refueling
- Special high-altitude reconnaissance planes
- Medium- or long-range antisubmarine patrol planes
- Long-range multiengine heavy transport planes
- Lightweight utility planes

When assigned to nonflying duty tours, airplane pilots often specialize in areas that will help them in senior staff positions later in their career. These "second careers" may be in areas such as engineering, computer science, or personnel management.

TRAINING

Initial training for pilots includes up to 18 months of demanding classroom and in-flight training. Student pilots learn principles of aerodynamics, major airplane systems, meteorology, navigation, communications, and federal and service flight rules and regulations. They practice flying in all weather, day and night. They also practice flying in formation and basic aerobatics. After initial training, pilots are given advanced training in one type of airplane, such as a fighter, ground attack, bomber, reconnaissance, or transport plane. Pilots must continue on-the-job flight training throughout their career.

Advanced training is available in areas such as ground attack tactics, dogfighting (air-to-air combat tactics), and directing air strikes. Pilots receive transition training whenever their airplane is modified or replaced by a new generation airplane. There are opportunities to attend graduate school for advanced technical and management degrees.

Pilots are also given opportunities for professional military education to prepare them for senior officer positions. These programs include study of military subjects such as strategy, tactics, and planning large-scale operations. They may be completed either by correspondence or full-time study.

TYPICAL CAREER PATH

Timeline

COMMAND PILOT

Excellent flight leaders who have broad experience in flying operations and who are outstanding leaders may advance to senior positions. At this level, they:

- **Command a squadron, flight operations group, or air facility**
- **Direct flight operations of a major flying unit**
- **Fly missions to maintain expert flying skills**
- **Advise headquarters commanders on squadron operations**

15-18 yrs

FLIGHT LEADER

Pilots who are expert in their flying mission and demonstrate outstanding leadership qualities may advance to flight leader. At this level, they:

- **Lead several airplanes on flying missions, such as airstrikes, patrols, or transporting cargo**
- **Instruct pilots in squadron missions and tactics**
- **Evaluate pilots' flying, leadership, and management skills**
- **Manage a squadron department, such as maintenance, training, or safety**
- **Manage combat missions, planning target selections and personnel utilization**

9-11 yrs

SENIOR PILOT

After mastering the requirements of their assigned mission area and gaining experience as leaders, pilots may advance to senior pilot. Senior pilots:

- **Plan and fly operational missions**
- **Fly as first pilot in a large airplane**
- **Lead flights of two or more aircraft on missions**
- **Instruct new pilots in their squadron duties and responsibilities**
- **Teach student pilots to fly**
- **Explain mission plans and assignments to flight crews**

4 yrs

PILOT

Pilots who earn their wings are assigned to a flying squadron. Depending on the type of aircraft and mission, they:

- **Plan flights, considering weather, fuel, and aircraft loading**
- **Fly missions alone, as part of a group of airplanes, or as copilot in a large airplane**
- **Plan missions and tactics**
- **Practice emergency and normal operating procedures**

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CIVIL ENGINEERS

ARMY
NAVY
AIR FORCE
COAST GUARD

Civil engineers are the military's builders. In their varied careers they may build air strips in the jungle, direct construction or maintenance of military bases, or work alongside combat troops, physically altering the battlefield to help them advance or hold their positions. You begin your career managing construction contracts, directing base utility and maintenance services, or leading a group of enlisted combat engineers. As you gain experience, you will serve in positions of increasing responsibility. There are opportunities to become director of engineering at a military base or to command a battalion of combat engineers.

DUTY ASSIGNMENT

Civil engineers work primarily in engineering offices or temporary construction facilities on military bases in the U.S. and overseas. Civil engineers assigned to combat engineering units may spend much time in the field during combat exercises and field maneuvers. Most have opportunities for overseas assignment, particularly in Europe and the Pacific islands.

SPECIALIZATION

Civil engineers typically spend their career developing expertise in several areas. Major areas include combat engineering, contract management, and public works. In each assignment, civil engineers use their engineering background, career experience, and increasing leadership ability.

RELATED MILITARY OCCUPATIONS

If you are interested in a career as a military civil engineer, you may also want to consider a career in another technical field. See the Engineering, Science, and Technical Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

Profile: Philip Thompson

Phil Thompson joined the Navy Reserves while he was in college studying civil engineering. "I looked into the Navy's Civil Engineer Corps," he says, "and liked what I saw." After graduation, he went to Officer Candidate School in Newport, RI, and then to Civil Engineer Corps Officer School in Port Hueneme, CA.

Phil's first assignment was to Guam. As a new Civil Engineer Corps ensign (O-1), Phil had 400 civilians working for him. He also had a large budget and responsibility for maintaining all Navy and Marine buildings and housing on the island. In his second year he was assigned as the Activities Civil Engineer (ACE). He managed a budget of $4 million and a large number of civilian workers. Phil liked the job so much that he asked to extend his tour of duty.

Phil enjoyed the public works side of civil engineering. For his next assignment, he went to the Naval Air Station Whidbey Island, WA. There, he directed facility maintenance forces, maintained three runways, two outlying airfields, roads, water, power, transportation, and everything needed to keep the base operating year round.

Assigned next to Vietnam, he directed the construction of housing for Vietnamese military personnel and their dependents. His crews for this project were the famous Navy "SeaBee" construction battalions.

Phil's most memorable tour was at the naval base at Guantanamo Bay, Cuba. He directed contractors building a water desalinization plant and an addition to the power plant. But his greatest satisfaction came from completely remodeling every home on the base. "We gutted and remade hot, uncomfortable houses into modern, fully air-conditioned units. It was really appreciated by the Navy and Marine Corps personnel and dependents living at Guantanamo," Phil says.

From his post in the Pentagon, where he monitors Navy planning and construction in the entire continental United States, Commander Phil Thompson is looking forward to taking some time off when he retires this fall. Looking back he says, "It's been 22 years of fun."

ADVANCEMENT

To perform their wide range of duties, military civil engineers must be flexible, excellent leaders, and have superior analytical and communications skills. They may come from any of several engineering backgrounds. They apply their education and abilities to solve problems, supervise contractors, lead troops, and give advice on contracts and designs.

To advance, civil engineers must have excellent professional skills and managerial abilities. To build a record of excellent performance, they must win the confidence of the people they work for and those who work for them. As they gain experience, they serve in positions of greater responsibility. They manage larger contracts, lead more people, and direct projects of increasing complexity. An excellent performance record is essential to success. An advanced engineering or management degree may increase chances for promotion.

Engineers compete with their peers for promotion and career-enhancing assignments. Only the best qualified personnel are selected for advancement and competition intensifies with each increase in rank.

TRAINING

Initial training for civil engineers is a combination of classroom and field training. Courses are taught in managing contracts, budgeting, combat engineering techniques, and leadership. To prepare for their next assignment, some engineers receive specialty training in such areas as environmental protection, fire prevention/protection, or mapping (cartography).

Advanced training is available in leadership and combat engineering. Civil engineers may earn a graduate engineering degree in a program funded by their service. Many others obtain degrees on their own time.

Civil engineers are also given opportunities for professional military education to prepare them for senior officer positions. These programs include study in military subjects such as strategy, tactics, and planning large-scale operations. They may be completed by correspondence or full-time study.

TYPICAL CAREER PATH

Timeline

DIRECTOR OF ENGINEERING

Engineering staff officers with outstanding records of leadership and technical expertise may be selected to direct major engineering activities or units. At this level, they:

- Command combat engineering or construction battalions of 500 to 750 military personnel
- Direct civil engineering operations at a military base
- Advise base or area commanders on civil engineering matters
- Evaluate construction bids submitted by civilian contractors
- Direct planning and management of major engineering projects

15-18 yrs

ENGINEERING STAFF OFFICER

Senior engineers who show excellent leadership and technical ability may advance to engineering staff officer. At this level, they:

- Analyze and recommend design specifications for buildings, bridges, roads, and other structures
- Determine construction project costs
- Lead other civil engineers in managing construction and maintenance contracts for a military base
- Advise senior commanders on combat and other engineering matters

9-11 yrs

SENIOR ENGINEER

Civil engineers who have performed well in their first assignments may advance to senior engineer. At this level, they:

- Command combat engineering companies of 65 to 200 enlisted personnel
- Plan and manage programs to maintain utilities, buildings, or roads on a military base
- Train new civil engineer officers
- Review plans and designs for engineering projects

4 yrs

CIVIL ENGINEER

After initial training, civil engineers are given their first duty assignment. Here they may:

- Direct military and civilian personnel in maintaining and constructing buildings
- Lead combat engineers in missions such as building fortifications, assembling mobile bridges, or preparing mine fields
- Monitor contractors to ensure their work meets contract specifications
- Lead and train enlisted personnel in construction techniques

INFANTRY OFFICERS

ARMY
MARINE CORPS

Infantry officers lead their troops through rigorous training and maneuvers. As an infantry officer, you will make sure your men are in top shape, well trained, and properly equipped. You begin your career leading a platoon of 30 to 50 infantrymen. As you gain leadership and tactical experience, you will serve in positions of increasing responsibility. There are opportunities to become battalion commander.

DUTY ASSIGNMENT

Infantry officers serve in infantry units at military bases in the U.S. and overseas. They work in offices and spend much time in the field. The new officer's first assignment is to train and lead a platoon of 30 to 50 soldiers. Later in their career, infantry officers command a company of 100 to 200 soldiers and perhaps a battalion of 500 to 1,000 soldiers. There are excellent opportunities for overseas assignment in Europe and the Pacific Islands.

SPECIALIZATION

Infantry officers may specialize in amphibious warfare (attacking land from the water), airborne operations (parachuting into battle), special operations, or ranger operations (rangers are special units skilled in combat in many different geographical areas). Infantry officers may also develop secondary career specialties through advanced education or special experience.

RELATED MILITARY OCCUPATIONS

If you are interested in a combat career, you may also want to consider a career as an artillery, tank, missile systems, or special operations officer. See the Combat Specialty Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

Profile: Wayne Garvey

Growing up in a small town in Texas, Wayne Garvey enjoyed working outdoors and knew he would like the life of a soldier. During his ROTC training at the Virginia Military Institute (VMI), Wayne heard an infantry officer talk about his profession. "I was impressed by his orientation to people and the emphasis the Army places on individual and team effort, professionalism, and dedication."

Wayne graduated from VMI, earning a commission in the Reserves. He qualified for a delayed entry to active duty, and used the time to go to law school. After admission to the bar, he began active duty. His first assignment following basic infantry and airborne training was to the 101st Airborne, Fort Campbell, KY, as a weapons platoon leader.

In that tour, Wayne also served as a company executive officer and as battalion adjutant, monitoring administration.

His next tour was in Vietnam, as a platoon leader with the 1st Air Cavalry. Wayne led his platoon in many combat actions and earned several decorations, including the silver star, the nation's third highest award for gallantry. He also spent part of his tour on the headquarters staff before returning home. During this tour, he advanced to captain.

With his service obligation complete, Wayne left the Army. He practiced law and was very successful. "But," he says, "I missed the Army every day of those 2 years." He and his wife made the decision together to return to Army life.

Back on active duty, Wayne returned to Vietnam, commanding a rifle company. He again earned several decorations. Following this tour, Wayne returned to the "States" to teach tactics at West Point Army Military Academy.

Since West Point, Wayne has served several tours on various Army staffs; in one tour he assigned infantry officers to positions throughout the world. He also commanded an infantry battalion in Korea. "This was a real milestone," he says, "a real highlight of my career to date."

Just selected for the highest level officers' courses at the Army War College, Wayne says about his service, "Even the bad days have been good. I have really enjoyed my career!"

ADVANCEMENT

Infantry officers must be uick-thinking, aggressive lead rs to be able to train and moti ate the soldiers they command.

To be successful platoon eaders, infantry officers must naster infantry operations and veapons and show outstanding eadership. To advance to com any commander, they must naster all tactical aspects of the nfantry, and demonstrate ability o coordinate combat actions vith artillery, armor, airlift, and ir strike support units. To ad ance to senior command posi ons, they must have success ully commanded and demon trated potential at the company evel to be selected to command t the senior level. Outstanding erformance in every duty as ignment is essential for ad ancement. Officers with the roadest range of infantry skills nd best records of leadership ave the best chance for promo on.

Infantry officers compete with heir peers for promotion and areer enhancing assignments. Only the best qualified personnel are selected for advancement and competition intensifies with each increase in rank.

TRAINING

Initial training for infantry officers includes up to 6 months of training in the classroom and in the field. Training covers infantry weapons, combat tactics, infantry organization, and military leadership. Many officers also receive specialized training to prepare them for their first assignment. They may be trained in combat skills such as parachute jumping, Ranger training, or amphibious landings.

Advanced training is provided to prepare infantry officers for more senior leadership roles. Courses are primarily in coordinating infantry and mechanized infantry with other combat units.

Infantry officers are also given opportunities for professional military education to prepare them for senior officer positions. These programs include study of such military subjects as strategy, tactics, and planning large-scale operations. They may be completed by correspondence or full-time study.

TYPICAL CAREER PATH

Timeline

BATTALION COMMANDER

Outstanding officers with a broad range of infantry experience may advance to senior officer positions. At this level, they:

- Command an infantry battalion of 500 to 1,000 men
- Plan training exercises or missions
- Instruct company commanders on mission assignments and objectives
- Coordinate battle plans with armor, artillery, and air support units

15-18 yrs

INFANTRY STAFF OFFICER

Company commanders with demonstrated leadership skills may advance to infantry staff officer. In this position, they:

- Assist their battalion commander in administration and management duties
- Manage a specialized function such as logistics or operations for a battalion or headquarters staff
- Teach infantry courses
- Resolve unit supply, maintenance, or personnel problems
- Advise senior commanders on infantry operations and readiness

9-11 yrs

COMPANY COMMANDER

Platoon leaders who have shown leadership ability may advance to company commander. At this level, they:

- Command an infantry company consisting of several platoons
- Develop and carry out battle plans to support battalion objectives
- Develop, schedule, and carry out training plans and field exercises
- Explain battle plans and assign objectives to platoon leaders

4 yrs

PLATOON LEADER

After initial training, infantry officers are assigned to lead a platoon. Platoon leaders:

- Train and lead an infantry platoon of 30 to 50 soldiers
- Inspect troops, barracks, and equipment
- Plan daily conditioning programs for the platoon or the entire company
- Lead the platoon on combat training exercises
- Direct the care and maintenance of weapons, radios, and other equipment assigned to the platoon

This career is not open to women

INTELLIGENCE OFFICERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Profile: Theresa Alvarez

Theresa "Teri" Alvarez signed up for a Marine training program one summer in college. "It sounded interesting," she says, "and it carried no obligation." Teri and 6 friends went to training that summer. After graduation, 3 of them went on to Officer Candidate School and became Marine officers.

Teri decided to enter the intelligence field as an interrogator translator. She was assigned to Hawaii, working as an intelligence analyst for Southeast Asia. As part of her duties, she prepared and gave briefings to senior officers served by her unit.

To further develop her leadership abilities, she was assigned to the Officer Candidate School in Quantico, VA. There, Teri taught several classes and counseled women officer candidates. She says, "I watched the women walk in and become Marine officers, leaving more confident and professional. It was one of my most enjoyable assignments."

After attending a special 9-month intelligence school to prepare her for assignment to the Defense Intelligence Agency (DIA), Teri reported for duty in Washington, D.C. as a Marine captain. In this post she developed a situational model to alert intelligence planners to developing threats all over the world. She also prepared a training course for threat analysts in different intelligence agencies. For her work during this tour, she was awarded the newly authorized Defense Meritorious Service Medal.

After being selected for promotion to major, Teri went full time to Command and Staff College. She was then assigned as the first woman to hold a position as division level (G-2) intelligence officer. She directed the group that provided intelligence services to the 2nd Marine Division, roughly one-third of the Marine Corps fighting force.

Later assignments included Okinawa and the Marine Headquarters in Washington, D.C., where she works now, planning and analyzing Marine Corps intelligence activities. As a lieutenant colonel, she is looking forward to her next assignment. She says, "I am eager for more responsibility. I really like the challenge and the opportunity to advance in a field that is so important to the Marine Corps and the nation."

Intelligence officers are the eyes and ears of the military. The information they deal with is vital to our national security. As an intelligence officer, you will analyze information on the military forces, governments, and people of other countries. You begin your career collecting and giving combat commanders briefings on information from sources such as satellite and aerial photographs, intercepted communications, and observers in the field. As you gain experience, you will serve in positions of increasing responsibility. There are opportunities to become intelligence operations director of an intelligence-gathering unit or of a large combat force on land or sea.

DUTY ASSIGNMENTS

Most intelligence officers work at military bases in the U.S. and overseas. Many work in electronic data processing and evaluation centers or photographic interpretation labs. Some work aboard ships or airplanes with sophisticated intelligence-gathering equipment. Many intelligence officers have an opportunity to work in Washington, D.C., where much intelligence planning and evaluation takes place. Intelligence officers have good opportunities for overseas duty.

SPECIALIZATION

Intelligence officers typically specialize in one area of intelligence early in their career. They expand on that foundation as they advance. Areas of specialization include communications intelligence (information from intercepted radio voice communications), signals intelligence (data from non-voice radio and radar signals), imagery intelligence (information from satellite and aircraft images), combat intelligence, and human intelligence (information provided by agents and other individuals in the field).

ADVANCEMENT

Intelligence officers serve in positions of great sensitivity. They analyze information vital to national security and prepare it for combat commanders around the world. Intelligence officers must be aggressively resourceful and analytical, and have excellent speaking and writing ability. In perhaps no other occupation is so much trust placed in individuals so early in their careers. After mastering the basic analytical skills, intelligence officers apply them in positions of increasing responsibility.

To advance, intelligence officers must have a record of consistently superior performance. Because military operations depend on accurate intelligence, there is no room for mistakes. Intelligence officers must win the respect and trust of their commanders and prove themselves good leaders. They must often learn computer and related skills.

Intelligence officers compete with their peers for promotion and career-enhancing assignments. Only the best-qualified personnel are selected for advancement, and competition intensifies with each increase in rank.

TRAINING

Initial training for intelligence officers includes up to 6 months of intensive classroom study. Officers learn how to analyze data and prepare briefings. They are trained in techniques for gathering intelligence and learn the kinds of information combat commanders need to make decisions in battle. They also are briefed on world situations. Intelligence officers may receive specialized training in areas such as electronics, communications, or satellite photographic intelligence gathering.

Advanced training is available, usually to prepare intelligence officers for a specific assignment. Other advanced courses may be in special analysis of intelligence information from many sources.

Intelligence officers are also given opportunities for professional military education to prepare them for senior officer positions. These programs include study of military subjects such as strategy, tactics, and planning large-scale operations. They may be completed either by correspondence or full-time study.

TYPICAL CAREER PATH

Timeline

INTELLIGENCE OPERATIONS DIRECTOR

Outstanding intelligence staff officers may advance to intelligence operations director. Here they:

- Direct intelligence services for air, land, or sea commands
- Coordinate their intelligence with other military and civilian intelligence agencies
- Determine the intelligence needed to support large combat forces
- Evaluate intelligence sources for accuracy and usefulness
- Brief top-level military leaders in areas of personal expertise

15-18 yrs

INTELLIGENCE STAFF OFFICER

Senior intelligence officers with excellent records of performance and leadership ability may advance to intelligence staff officer. Typically, they:

- Brief senior-level staff and combat commanders on activities of enemy forces
- Direct a team of officers and enlisted personnel, compiling and analyzing intelligence information from all sources
- Confer with intelligence officers from other services and nations to share information
- Teach military intelligence courses

9-11 yrs

SENIOR INTELLIGENCE OFFICER

Intelligence officers with an excellent performance record may advance to senior intelligence officer. At this level, they may:

- Analyze information from many sources of intelligence and prepare briefings or reports
- Gather information to support combat exercises and maneuvers
- Analyze potential security problems
- Train new intelligence officers in job duties

4 yrs

INTELLIGENCE OFFICER

After initial training, intelligence officers are assigned to specialized intelligence units or to air, sea, or ground combat units. Here they may:

- Research enemy force locations, size, and capability
- Analyze weaknesses and strengths of enemy forces
- Brief combat commanders or aircrews on research results
- Direct a small team of enlisted personnel intercepting and analyzing voice or other radio signals
- Interpret aerial and satellite photographs
- Debrief aircrews or ground combat teams returning from missions or patrols

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LAWYERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Profile: Leighton Pierce

After college, Leighton Pierce was not challenged by his job with a large computer firm. After talking with a Marine officer friend, he decided to give the Marines a try. He graduated near the top of his officer training class and then spent a tour in Vietnam, after which he decided to make the Marine Corps his career.

However, cancer forced him from active duty. The service treated him and, while he was on a temporary retirement, covered him with 100 percent medical disability pay and benefits. He took the opportunity to go to law school.

When he was given a clean bill of health, the Marines asked him if he would like to return to active duty as a lawyer. "My wife and I enjoyed the friends we had made and the travel," Leighton says, "so we decided to go back," leaving behind a successful civilian law practice.

He started his Marine law career with Naval Justice School, before practicing law for the military.

Leighton especially enjoyed courtroom practice in prosecution and defense, but was challenged by other legal service assignments as well. A high point in his career was a tour to Okinawa. "We loved the life there," he says. In that tour, he served as senior defense counsel, directing all trial defense cases and acting as the lead defense lawyer in many trials.

Since then, he and his family have enjoyed assignments in the United States and a tour in the Philippines. Leighton is now a lieutenant colonel in charge of legal support services, 2nd Force Service Support Group, directing 34 lawyers and 83 enlisted legal specialists. His group handles all military justice and administrative law for thousands of Marine Corps personnel stationed at Camp Lejeune, NC. He is looking forward to continuing his challenging and rewarding career.

Military lawyers, known as Judge Advocate General's (JAG) officers, work for the largest "legal firms" in the world. As a military lawyer, you will prosecute or defend military personnel in courts-martial, counsel personnel on legal problems, and advise commanders in matters of law. You begin your career handling trials and providing legal services. As you gain experience, your assignments will become more challenging. There are opportunities to become a legal services director or a judge in a military court.

DUTY ASSIGNMENT

Most military lawyers work in legal offices and courtrooms on military bases in the U.S. and overseas. Some serve aboard large ships at sea or on the flagship of a fleet commander. Legal services officers and directors normally work at major command headquarters, on large military bases, or in Washington, D.C. There are good opportunities for overseas assignments.

SPECIALIZATION

Lawyers may gain special expertise through experience or advanced education. They may specialize in contract, labor, international, maritime, or criminal law.

ADVANCEMENT

Military lawyers must speak and write with ease and authority. They must be familiar with civilian and military law, as well as courtroom strategy. Creativity and perseverance are essential to research complex legal rulings and use them in court cases.

To advance, lawyers must continue to increase their knowledge of military, criminal, and civil law. They should have excellent legal performance and leadership records. Most lawyers obtain advanced degrees or specialties. However, they are also encouraged to broaden their experience through a variety of assignments. In later assignments, lawyers lead junior JAG officers as well as enlisted legal personnel.

Lawyers with a legal specialty and outstanding records of performance in a variety of assignments have the best opportunities to advance to senior positions. Only the best qualified personnel are selected for advancement and competition intensifies with each increase in rank.

TRAINING

Lawyers entering the military must be graduates of an accredited law school. Initial training for lawyers is conducted by the service Judge Advocate General's school. Courses include introduction to military law, the military justice system, and officer leadership and management responsibilities. New lawyers train on the job in courtrooms and legal service offices.

Lawyers are expected to keep up with changes in laws, regulations, and legal procedures. They must continue to study and attend symposiums, conferences, and seminars throughout their career. Many lawyers have opportunities to acquire specialties and advanced degrees. Advanced training typically opens up a range of assignments that would otherwise be unavailable.

Lawyers are also given opportunities for professional military education to prepare them for senior officer positions. These programs include study of military subjects such as strategy, tactics, and planning large scale operations. They may be completed by correspondence or occasionally by full-time study.

TYPICAL CAREER PATH

Timeline

LEGAL SERVICES DIRECTOR

Legal services officers with outstanding records of leadership and legal expertise may advance to legal services director. Here they may:

- Direct all activities of a legal services (Judge Advocate General's) office supporting local operational commands
- Set up prosecution or defense in courts-martial
- Advise senior staff and combat commanders on legal matters
- Serve as a judge on courts-martial

15-18 yrs

LEGAL STAFF OFFICERS

Outstanding senior lawyers may advance to legal staff officer. At this level, they may:

- Advise commanders on specific legal topics (contract, labor, maritime, or international law)
- Defend or prosecute personnel in courts-martial that require lawyers of senior rank and expertise
- Direct lawyers and enlisted legal specialists in providing services to military personnel and their dependents
- Review contracts to determine if they meet legal requirements

9-11 yrs

SENIOR LAWYER

Lawyers who demonstrate the ability to interpret and work with law may advance to senior lawyer. At this level, they:

- Advise commanders and senior staff officers on general legal issues
- Make sure policies and procedures comply with civil and military law
- Investigate liability claims
- Advise military personnel on legal matters

4 yrs

LAWYER

Following initial training, lawyers are assigned to Judge Advocate General offices. Here they:

- Prosecute and defend military personnel in courts-martial
- Research cases using law libraries and computerized references
- Interview defendants and witnesses
- Prepare wills, adoption papers, and other personal legal documents

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METEOROLOGISTS

ARMY
NAVY
AIR FORCE
MARINE CORPS

Profile: Brian Christopher

As a child, Brian Christopher lived on a small farm and liked to watch the weather. He remembers trying to figure out what the weather would be when he was just 8 years old. However, it was not until he was working his way through college that Brian really decided meteorology was the career he wanted. He also had another goal - to serve in the Air Force.

His first assignment was to Plattsburg Air Force Base (AFB) in northern New York. There he developed and briefed weather forecasts for B-52 bomber and KC-135 tanker aircrews. The aircrews depended on the accuracy of his forecasts to fly safely and to protect planes on the ground from damage by severe weather. After 15 months, Brian became a weather officer for all the bomber squadrons at the base. He briefed the wing commander daily and made sure the squadrons received good weather support.

Brian applied and was selected for fully funded studies at St. Louis University and earned a master's degree in meteorology. "After my degree, the technical assignments really opened up," he says. He became a technical consultant at Andrews AFB, MD, near Washington, D.C. There he developed new methods for using satellite data to predict weather in areas of the world with no ground observation stations. He also kept himself informed on what was going on in civilian meteorological science.

As he advanced, Brian filled more leadership roles. He played a part in the weather service's support in developing new weapons systems. As a major, he commanded a large weather station serving the Tactical Air Command's busiest training base, Luke AFB, AZ. He worked with the North American Air Defense Command in Colorado Springs and he was a key individual in efforts to modernize Air Force weather service equipment.

Today, Lieutenant Colonel Brian Christopher leads 65 meteorologists and enlisted weather specialists at the Global Weather Center at Offut AFB in Omaha, NB. His group serves all the armed services and supports missions ranging from major NATO exercises to missile launches and testing all over the world. "I enjoy my role as a leader," he says, "but I still like to pit my forecasting skills against Mother Nature."

Accurate weather forecasts can save lives and equipment in military operations. As a meteorologist, you supervise enlisted weather observers and forecasters and advise operational commanders on changing weather conditions. You begin your career directing data collection and interpreting weather maps, observation data, and satellite information. As you gain leadership and forecasting skills, you will serve in positions of increasing responsibility. There are opportunities to become director of a major meteorological center in charge of a group of weather stations.

DUTY ASSIGNMENT

Most meteorology officers work in weather stations or weather support units at military bases in the U.S. and overseas. Some work in global weather centers. Others work in command and control centers aboard ships at sea. There are good opportunities for overseas assignment to military bases and outposts throughout the world, from the tropics to the north and south poles.

SPECIALIZATION

Meteorologists may specialize in the field in which they have an advanced degree. Specialties include oceanography, astrophysics, geophysics, and computer science. Typically, meteorologists serve in a variety of assignments, returning periodically to their specialty.

RELATED MILITARY OCCUPATIONS

If you are interested in a career as a meteorologist, you may also want to consider a career in oceanography or some other scientific or technical occupation. See the Engineering, Science, and Technical Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

VANCEMENT

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TRAINING

Initial training for meteorologists includes up to 12 months of classroom instruction in weather observation, analysis, and forecasting. Instruction is also given on the impact of weather on military operations and the information needed by combat commanders. Military leadership is an important part of initial training.

Advanced training is given in such areas of specialization as interpreting satellite weather data and computer applications to forecasting. Most meteorologists earn advanced degrees in areas such as meteorology, oceanography, geophysics, astrophysics, or computer science. They may specialize in such fields as environmental effects on electronic equipment, solar forecasting, or acoustics in water. Some attend schools in programs funded by their service; others obtain degrees on their own time.

Meteorologists are also given opportunities for professional military education to prepare them for senior officer positions. These programs include military subjects such as strategy, tactics, and forecasting requirements for planning large-scale operations. They may be completed by correspondence or full-time study.

Timeline

TYPICAL CAREER PATH

METEOROLOGY DIRECTOR

Meteorology staff officers with superior technical expertise and leadership ability may advance to direct a meteorological center. At this level, they may:

- **Direct personnel predicting and monitoring global weather patterns**
- **Advise top-level military commanders on weather conditions**
- **Manage staff and weather planning for large geographic areas (such as northern Europe)**
- **Inspect weather facilities under their command**

15-18 yrs

METEOROLOGY STAFF OFFICER

Senior meteorologists with records of excellent performance may advance to meteorology staff officer. They may:

- **Command large weather stations**
- **Advise scientists and technicians designing, developing, and testing new weapons systems**
- **Direct weather computer centers**
- **Confer with oceanographers to support operations at sea**
- **Advise combat commanders and their staffs on weather conditions**

9-11 yrs

SENIOR METEOROLOGIST

Meteorologists who have excellent technical and leadership skills advance to senior meteorologist. At this level, they may:

- **Command a small weather station or outlying weather facility**
- **Train and evaluate new meteorologists and enlisted personnel**
- **Send hazardous weather warnings**
- **Direct preparation of weather forecasts and local advisories**

4 yrs

METEOROLOGIST

After initial training, new meteorologists are assigned to base weather stations or outlying weather support facilities. Here they:

- **Direct enlisted personnel gathering weather data from surface instruments, balloons, radar, and satellites**
- **Analyze data and information from charts and other weather stations**
- **Prepare short-term and long-range weather forecasts**
- **Brief aircrews on weather conditions**

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NUCLEAR ENGINEERS

ARMY
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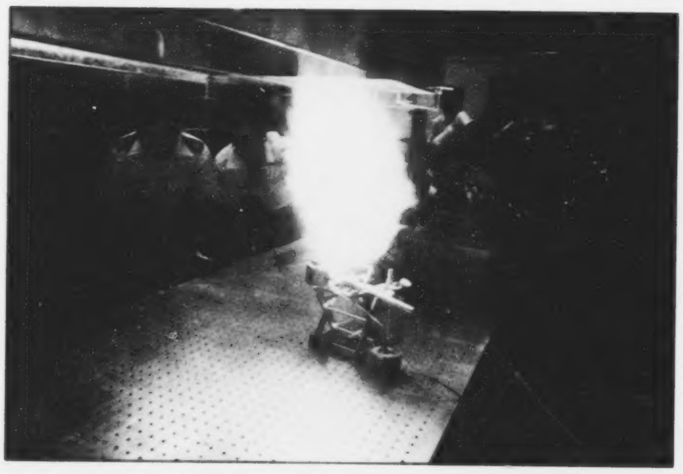

Career nuclear engineers conduct research and develop projects using the most advanced technology. As a nuclear engineer, you may work with lasers, particle beams, weapons effects, or space environments. Your contributions will be vital to maintaining the nation's defense. You begin your career in a laboratory. You will work with and learn from some of the world's foremost nuclear engineers. As you develop your knowledge and leadership abilities, you will take on greater responsibility. There are opportunities to advance to director of a military research laboratory.

DUTY ASSIGNMENT

Nuclear engineers work in laboratories, offices, and sometimes in the field. During a typical career, a nuclear engineer performs and directs research and serves with military staffs. Almost all assignments are in the United States. However, there are a few opportunities for assignment abroad.

SPECIALIZATION

Nuclear engineers specialize in military applications of nuclear energy. They conduct research, direct design and development projects, and manage purchasing contracts. Most seek to become an expert in one area of the field. Some areas of research are:

- Nuclear reactor design for ships, submarines, or land (safety, performance theory, and testing)
- Nuclear reactor operation
- Nuclear safety (storage and handling of fuel, reactors, and weapons)
- Nuclear effects on electronic and other equipment
- Technical aspects of nuclear weapons policy

As nuclear engineers advance to senior officer positions, they maintain their specialized knowledge and increase their general knowledge of the field.

Profile: Peter Flambeau

Lieutenant Colonel Pete Flambeau enjoyed physics in high school. The man who was his physics teacher and football coach suggested college and a major in physics. Pete decided to take his advice and graduated with honors from a college in Massachusetts.

Pete had joined the ROTC in his junior year in college. When he completed his bachelor's degree, he requested and received a delayed entry to active duty so he could complete a master's degree in nuclear physics. When he entered active duty as a second lieutenant, the Air Force needed many officers as weapons controllers. He trained at Tyndall Air Force Base (AFB), FL, and then for 2 years controlled fighter interceptors from Kotzobue, AL and Myrtle Beach, SC.

Pete and his family found that they enjoyed Air Force life. When his obligated service was up, he decided to continue a career in the service. Pete wanted to redirect his career to physics, so he applied to the Air Force Institute of Technology in Dayton, OH. He was accepted and completed studies for a doctoral degree (Ph.D.) in nuclear effects. He was promoted to captain while he was at school.

In order to conduct research for his Ph.D., he was assigned to the Air Force Weapons Laboratory in Albuquerque, NM. He also worked on other projects, including computer predictions of nuclear weapons effects.

Once Pete earned his Ph.D., his leadership duties increased. He led research for several important projects, including a project for the MX ballistic missile program. He also spent a tour teaching physics at the Air Force Academy. "I really enjoyed working with the cadets," Pete says. "It was a rewarding tour." Promoted to major, he was selected to attend Air Force Command and Staff College full time for advanced professional military education.

Today Pete is deputy director of Space Physics at the Air Force Geophysics Laboratory in Hanscom, MA. Smiling, he says, "After assignments all over North America, I now live 5 miles from the place I was born and raised."

Pete says his career has been exciting. "I have had variety and challenges conducting research and leading the scientists who worked for me." He looks forward to being the chief director of critical space systems projects over the next several years.

CEMENT

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RELATED MILITARY OCCUPATIONS

If you are interested in a career in nuclear engineering, you may also want to consider a career as a physicist, computer systems engineer, electrical and electronics engineer, or chemist. See the Engineering, Science, and Technical Occupations cluster in the *Military Career Guide* for descriptions of these occupations.

TRAINING

Initial training for most nuclear engineers is on the job at a military-run laboratory. Nuclear engineers typically enter the service with a master's or bachelor's degree in physics, nuclear engineering, or a related field. After one or two tours in a laboratory, most nuclear engineers attend graduate school funded by their service. They earn a Ph.D. or a master's degree. The course work for their degree usually includes research in an area of direct interest both to them and to the service.

Nuclear engineers are encouraged to complete professional military education programs to prepare them for senior officer positions. These programs involve study in military subjects such as leadership, strategy, tactics, and planning large-scale operations. They may be completed by correspondence or full-time study.

TYPICAL CAREER PATH

Timeline

LABORATORY DIRECTOR

Outstanding nuclear engineering staff officers with career-long records of top performance as leaders, managers, and expert nuclear engineers may advance to laboratory director. At this time in their career, they:

- Command a research laboratory, monitoring research, directing research, and leading teams of scientists and technicians
- Develop and consult on military service research and development strategy
- Provide expert advice to national-level staffs
- Manage government weapons acquisition programs

15-18 yrs

NUCLEAR ENGINEERING STAFF OFFICER

Senior nuclear engineers who have excellent research and managerial skills may advance to nuclear engineering staff officer. Here they:

- Manage research projects, directing civilian and military scientists
- Provide senior military staffs with expert advice on matters concerning nuclear weapons
- Assist scientists from many other disciplines in solving shared research or production problems
- Conduct independent research in a special area of expertise

9-11 yrs

SENIOR NUCLEAR ENGINEER

Nuclear engineers who have demonstrated technical proficiency and the potential to become excellent researchers and leaders may advance to senior engineer. At this level, they may:

- Conduct basic and applied research in a laboratory
- Complete a master's degree or Ph.D. in an area of nuclear engineering
- Teach courses in their field or specialty
- Provide technical direction for research performed by contractors or universities

4 yrs

NUCLEAR ENGINEER

Following initial training, new nuclear engineers are assigned to research and development laboratories, test sites, or nuclear reactor prototypes. Nuclear engineers:

- Work with experienced research scientists on projects such as effects of the outer space electromagnetic environment on people and electronic equipment, laser and particle beam technology, weapon design, or effects of weapons on military equipment
- Develop professional research skills
- Give technical support to projects demanding knowledge in nuclear engineering

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PHYSICIANS AND SURGEONS

ARMY
NAVY
AIR FORCE

Military physicians and surgeons lead health care teams in the field and in military hospitals and clinics around the world. As a physician or surgeon you will diagnose and treat military personnel and their dependents. You begin your career treating patients under the direction of an experienced staff doctor. As your knowledge and skills increase, you will specialize in a medical field. There are opportunities to become medical director of a hospital or clinic.

DUTY ASSIGNMENT

Most physicians and surgeons work in clinics, hospitals, and medical centers at military bases in the U.S. and overseas. Some work aboard naval vessels or hospital ships. Many serve temporary duty assignments in field hospitals during combat exercises and maneuvers. The military services strive to provide doctors with a stable work environment. As a result, physicians and surgeons often serve extended duty assignments at a single hospital in the U.S., Europe, or the Pacific.

SPECIALIZATION

Physicians and surgeons specialize as they gain experience and education. For physicians, typical specialties include family practice, pediatrics (providing care for newborn children to young teenagers), and endocrinology (treating disorders caused by imbalances and diseases of the body's system of internal glands). Surgeons begin in general surgery and typically specialize in neurosurgery (surgery involving the brain and central nervous system), heart surgery, or cosmetic reconstructive surgery.

Profile: Anthony Rugieri

Tony Rugieri enjoyed biology and wanted to become a doctor. He chose the Army because of the educational opportunities it offered for obtaining a medical degree. "The Army internship gave doctors a chance to rotate in departments and to practice many medical specialties," he says. Tony's first assignment was directing emergency room services at a large hospital near Washington, D.C.

In his next assignment, Tony went to Vietnam. He found the life of a combat doctor challenging. He earned two bronze stars: one for valor and one for exceptionally meritorious service. After this tour, he decided to "stay awhile" in Army medicine.

Returning from Vietnam, Tony was selected for a fully funded advanced training program in internal medicine. He stayed on at the hospital where he trained and served a year as staff physician in internal medicine.

After a tour with the Office of the Army Surgeon General in Washington, D.C., Tony and his family enjoyed a tour in Germany together. Tony was the chief of internal medicine at an Army hospital and followed this assignment with a position as chief of hospital clinics and community health services.

In Germany, Tony qualified for certification in family practice medicine. This was a new program in military medicine. As one of the first doctors qualified, Tony returned to the United States and became the chief of family services at a large hospital on the East Coast. He also directed a residency program for doctors in advanced training.

Today, Tony is a colonel, directing quality assurance for the Surgeon General of the Army. Tony says, "One of the best things about my career has been the opportunity to work in many different jobs. I am always looking forward to my next assignment."

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RELATED MILITARY OCCUPATIONS

If you are interested in a medical career, you may also want to consider other military medical occupations. See the Health Diagnosing and Treating Practitioner Occupations cluster in the *Military Career Guide* for descriptions of these occupations. The nursing career is also described in the next military officer career description.

TRAINING

Initial training for physicians and surgeons includes basic orientation in military medical service administrative, professional, and military policies. Throughout their careers they are expected to keep pace with advances in medicine by attending professional symposiums and seminars and by reading technical literature.

Almost all physicians and surgeons will attend fully funded programs to obtain advanced medical specialties. Physicians specialize in a nonsurgical branch of medicine, and surgeons in a branch of surgery. Specialty education may take place in military or civilian teaching hospitals. Programs may require 1 or more years to complete.

Physicians and surgeons are also given opportunities for professional military education to prepare them for senior officer positions. These programs include study in military subjects such as strategy, tactics, and planning large-scale operations. These courses are usually completed by correspondence, but a few doctors attend full-time courses.

TYPICAL CAREER PATH

Timeline

MEDICAL DIRECTOR

Staff doctors with outstanding medical or surgical ability and outstanding records of leadership may advance to medical director. Typically, they:

- Direct medical services at a military hospital or large clinic
- Conduct a limited practice to maintain their skills
- Direct training of interns and residents
- Confer with staff doctors to verify diagnoses and treatments
- Evaluate staff doctors

15-18 yrs

STAFF DOCTOR

Resident doctors who complete specialty training may become staff doctors. At this level, they may:

- Practice in their specialty
- Supervise and advise residents, general medical officers, interns, and students
- Serve as chief of a clinic or medical department
- Evaluate resident doctors

9-11 yrs

RESIDENT DOCTOR

General medical officers with 1 to 3 years of excellent performance return to military or civilian teaching hospitals to gain medical specialties. As residents, they may:

- Complete rigorous programs of study in a specialty
- Instruct interns and medical students
- Conduct medical "rounds" to supervise interns and students and care for their own patients
- Meet with hospital staff to discuss cases and procedures

2-4 yrs

GENERAL MEDICAL OFFICER

Doctors who complete their internships are usually assigned to hospitals, clinics, or, possibly, large ships as general medical officers. They:

- Examine patients, and diagnose and treat illnesses
- Order X-rays, tests, and medication
- Conduct medical "rounds"

1-2 yrs

INTERN

Medical school graduates who have not completed their internship training serve as interns in a supervised program of medical practice training. Here they:

- Work in a teaching hospital, diagnosing and treating patients
- Accompany resident and staff doctors on medical "rounds" to evaluate patient condition
- Help train medical students

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REGISTERED NURSES

ARMY
NAVY
AIR FORCE

Military registered nurses care for the sick, injured, and wounded. They are a vital part of the military health care team. As a military nurse, you begin your career administering medications prescribed by doctors, monitoring patients' progress, and training and directing enlisted medical technicians. As you gain experience and your skills increase, you will serve in positions of increasing responsibility. There are opportunities to become director of nursing care activities at a hospital or clinic.

DUTY ASSIGNMENT

Most military nurses work in clinics, hospitals, and medical centers at military bases in the U.S. and overseas. Some work aboard naval vessels and hospital ships. Many are assigned to temporary duty in field hospitals during combat exercises and field maneuvers. Many also serve in ambulance, evacuation helicopter, or medivac transport planes. There are good opportunities for overseas assignments, particularly in Europe and the Pacific Islands.

ADVANCEMENT

Military registered nurses must want to serve others. They must be able to deal with their patients' emotional well-being as well as their medical needs. They also need to develop leadership and training skills. Initiative is needed to maintain a high level of patient care.

To advance, nurses must be highly skilled professionals. They must master basic nursing and leadership skills quickly. Seeking varied assignments will increase their professional expertise. Almost all nurses specialize, either by acquiring an advanced degree or through speciality training programs. An excellent performance record, combined with specialization and a variety of increasingly responsible positions, is the key to advancement.

Nurses compete with their peers for promotion and career-enhancing assignments. Only the best-qualified personnel are selected for promotion and competition intensifies with each increase in rank.

Profile: Janice Kendall

When she was 3 years old, Navy captain Janice Kendall had an attack of appendicitis. She spent months in the hospital. She says, "I was so impressed with the nurses who cared for me that I knew I wanted to be one too."

Janice, a Canadian, went to diploma school, then did more work to train in psychiatric nursing. After practicing several years, she tried nursing in the United States. There, an uncle in the Navy suggested she try Navy nursing. Feeling the 2-year commitment wasn't too bad, Janice joined.

Because of her previous experience, Janice was commissioned as a lieutenant, junior grade (O-2). She began her career monitoring seven psychiatric wards as part of a close-knit team with the psychiatrist at the Navy hospital in San Diego.

Her second tour was in Subic Bay, the Philippines. She used her emergency skills there, handling many emergency cases from the Vietnam conflict. The hours were long, but rewarding. During this assignment she used her leave to tour the Far East - Hong Kong, Bangkok, India, and Japan. She also met her husband when he was on leave from Vietnam.

Janice was recognized not only as an outstanding nurse, but as an excellent leader. Her next few tours took her to hospitals where she directed other nurses and trained Navy hospital corpsmen. Training the hospital corpsmen has been a favorite activity for Janice. Navy corpsmen are often the only medical people on board submarines, small ships, and marine combat units.

Janice was selected for further education. After earning her baccalaureate degree in nursing, she was assigned to Camp Pendleton, CA and then to Okinawa, an island near Japan. In Okinawa she served as assistant director of nursing services and director of family advocacy for all Navy and Marine Corps families on the island.

Today, Janice assists the admiral who directs the Navy Nurse Corps. She has been at the hub of Navy nursing activity over the past several years. She says, "My experience has given me a lot to share with the young nurses I will be directing in my next tour." She is looking forward to serving as assistant director of nursing at one of the largest naval hospitals in the world.

Looking back over 24 years of service, she says, "I like everything about it. It's never the same; you constantly gain experience, see new places, and never lose seniority."

TRAINING

Initial training for nurses includes orientation in military medical administration, nursing programs and procedures, and leadership. Nurses continue to attend seminars, short formal courses, and conferences throughout their career to improve their nursing and patient care skills. In addition to these programs, they study on their own to stay abreast of advancements in the field.

Almost all nurses have opportunities to obtain nursing specialties and advanced degrees, often in fully funded programs. Clinical programs educate nurses in anesthesiology, pediatric nursing, or other clinical specialties. Educational specialties enable nurses to teach other nurses, patients, or enlisted medical technicians. Special programs in administration train them to manage nursing and hospital programs. Many military nurses will have the opportunity to pursue an advanced degree in a nursing specialty.

Nurses are also given opportunities for professional military education to prepare them for senior officer positions. These programs include study in military subjects such as strategy, tactics, and planning large-scale operations. They are usually completed by correspondence.

SPECIALIZATION

After gaining experience as staff nurses, registered nurses may specialize in such fields as mental health, anesthesiology, operating room nursing, nursing education, pediatrics, or nursing administration.

RELATED MILITARY OCCUPATIONS

If you are interested in a medical career, you may also want to consider other military medical occupations. See the Health Care Occupations cluster in the *Military Career Guide* for descriptions of these occupations. The career of physician and surgeon is also described in the previous military officer career description.

TYPICAL CAREER PATH

Timeline

DIRECTOR OF NURSING CARE

Nurses with outstanding performance records and managerial skills may become director of nursing care activities at a hospital or other medical treatment facility. At this level, they:

- Manage all nursing services at their hospital or facility
- Advise medical staff and hospital administration on nursing services
- Direct nursing staff in maintaining approved standards of patient care
- Direct nursing orientation and training programs

15-18 yrs

PATIENT CARE COORDINATOR

Charge nurses who have excellent managerial skills may advance to coordinate nursing services for a ward or a clinic. Here they:

- Assign nurses to shifts and wards
- Determine the adequacy of nursing care
- Inspect rooms and wards
- Accompany doctors on medical "rounds" to keep informed of special orders
- See that drugs, solutions, and equipment are ordered and records are maintained
- Investigate problems of patients, nurses, and enlisted medical technicians

9-11 yrs

CHARGE NURSE

Staff nurses with excellent patient care skills who show leadership ability may advance to charge nurse. They are responsible for all nursing activity on a hospital ward. At this level, they:

- Discuss patient conditions and nursing activities during change-of-shift meetings
- Assign staff nurses to patients
- Consult with the patient care coordinator on unusual nursing problems
- Participate in nursing orientation and training programs
- Evaluate performance of staff nurses

4 yrs

STAFF NURSE

After initial training, registered nurses are assigned to patient care duty at a clinical service ward of a hospital or medical center. Typically, staff nurses:

- Take and record "vital signs" of patients, such as temperature, pulse, and blood pressure
- Administer medication prescribed by doctors
- Observe patient condition and reaction to drugs
- Assist doctors during examinations and treatments
- Change or direct the changing of bandages and dressings
- Direct enlisted medical and nursing technicians in routine patient care

SHIP AND SUBMARINE OFFICERS

ARMY
NAVY
COAST GUARD

Ship and submarine officers sail the world's most powerful vessels, from fast-attack submarines to huge aircraft carriers. As a ship or submarine officer you will lead highly trained enlisted specialists in maintaining and operating the ship's systems. You begin your career leading a team of 10 to 50 enlisted personnel. You may be responsible for maintaining and operating the ship's power plant, missiles and guns, or radar. You will learn to navigate the ship in all weather, day and night. As you gain experience, you will serve in positions of increasing responsibility. There are opportunities to become captain of a surface ship or submarine.

ADVANCEMENT

Ship and submarine officers direct the sailing and combat operations of their vessel. They must complete extensive qualifications programs, learning to navigate and operate their ships in all weather, in any area of the world's oceans. They direct enlisted specialists who maintain and operate the ship's radar, power plants, or weapons systems. Ship and submarine officers must be aggressive, self-motivated, and excellent leaders.

To advance, ship and submarine officers must complete all shipboard qualifications and have outstanding leadership and management records. They must also develop special skills. They may get training in a warfare specialty, such as hunting submarines, or they may pursue an advanced degree.

Ship and submarine officers compete with their peers for promotion and career-enhancing assignments. Outstanding performance in every assignment is the key to success. Only the best-qualified personnel are selected for advancement and competition intensifies with each increase in rank.

Only the Navy offers a career in submarines. In the Army there are duty assignments involving directing units of landing craft and tugboats. However, there is no typical career path for ship officers.

Profile: James Stoddard

From the time Jim Stoddard was in high school in New York City, he wanted to be a Navy submarine officer and qualified to attend the Naval Academy. "I felt the discipline at the academy would help me get the most out of my education." Adapting well to academy life, he graduated near the top of his class with a degree in Naval Architecture.

After submarine school in Groton, Connecticut, he went on his first submarine to the Western Pacific. Here, he felt the first thrill of command responsibility as an Officer of the Deck. On watch, he directed the "sailing" and safe operations of his submarine. "The Officer of the Deck is completely trusted by the submarine's captain," Jim says. "I was representing the captain and in charge of the vessel and her crew."

Jim worked hard and advanced rapidly. As a lieutenant, he was assigned to graduate studies at the Massachusetts Institute of Technology, and the Woods Hole Oceanographic Institution. He went on to nuclear power school and tours in several nuclear powered ballistic missile submarines.

Jim served tours in all the major departments of a submarine. He mastered engineering, weapons, and operations. As he gained experience, he became a master tactician and assisted the captains of the submarines on which he served. They used their knowledge of the underwater environment to keep their submarine hidden while carrying out missions assigned to their vessel. He was decorated several times for submarine operations and leadership.

During his career Jim and his wife have enjoyed a unique part of Navy life, and a special commitment to each other. Whenever possible, she joined him at the ports his submarines would visit. They spent time together in Australia, England, Germany, and many ports elsewhere in the world.

Today he is the captain of a nuclear attack submarine. Jim says he has most enjoyed the responsibility of each assignment. "And," he adds, "I have really seen the world."

DUTY ASSIGNMENT

Ship and submarine officers live and work in their vessels at sea. While in port, they spend the workday aboard their ship. They may travel to locations around the world, and some ships and submarines have "home ports" in the Pacific Islands or Scotland. At regular points in their career, officers are assigned to a job on shore, usually in offices. Ship and submarine officers typically serve a number of tours on sea duty throughout their career.

SPECIALIZATION

Officers of surface ships must have a broad knowledge of their vessel. In addition, they usually focus on one specific area of their ship, such as engineering (power plants, pumps, or fuel systems), combat systems (weapons or electronics operation and maintenance), or operations (tactics and navigation). Some ships are nuclear powered, and require officers trained in nuclear reactor operation. All submarine officers are nuclear qualified. As they advance to senior level assignments, ship officers are expected to learn about more areas in greater depth.

Because a submarine is a smaller self contained unit, submarine officers must have a detailed knowledge of their vessel and all its systems.

When assigned ashore, officers often specialize in areas that will help them in senior staff positions later in their career. These "second careers" may be in personnel management, fleet operations planning, or management of programs to develop or buy large weapons systems.

TRAINING

Initial training for ship officers includes 15 weeks of classroom instruction. Training covers ship operations, naval tactics, navigation, and the responsibilities of each department aboard ship. After they attend "Surface Warfare Officer School," officers may be further trained for their first assignment aboard ships such as cutters, destroyers, battleships, or aircraft carriers.

Training for submarine officers begins with 12 months of courses on nuclear power. Following nuclear power school, they attend submarine basic school to learn submarine operations and tactics.

Both ship and submarine officers receive advanced training throughout their careers. They often get technical training in such areas as sonar, radar, missile systems, and power plants. They may attend graduate school for advanced degrees.

Ship and submarine officers also have opportunities for professional military education to prepare them for senior officer positions. These programs include study of military subjects such as strategy, tactics, and planning large-scale operations. They may be completed either by correspondence or full-time study.

RELATED MILITARY OCCUPATIONS

If you are interested in a career as a ship or submarine officer, you may also want to consider a career in transportation management or some other transportation occupation. See the Transportation Occupations and Executive, Administrative, and Managerial Occupations clusters in the *Military Career Guide* for descriptions of these occupations. Some Transportation Occupations are also described in the military officer careers section of this book.

TYPICAL CAREER PATH

Timeline
15-18 yrs
9-11 yrs
4 yrs

SHIP CAPTAIN

Executive officers who have consistently shown outstanding leadership and technical ability may be selected to be a ship or submarine captain. At this level, they:

- Command the operations of a ship or submarine and crew
- Study orders and plan exercises and maneuvers to carry out missions
- Direct daily operations and plan tactics
- Direct the planning of fleet operations exercises as part of a naval staff

EXECUTIVE/STAFF OFFICER

Department heads with broad experience and outstanding leadership abilities may advance to second-in-command (executive officer) of a ship or submarine. At this level, they:

- Issue orders and instructions to assist the ship's captain in daily operations
- Manage administrative and maintenance activities
- Command the ship or submarine in the captain's absence
- Plan fleet exercises as part of a naval staff

DEPARTMENT HEAD

Division officers who show leadership potential in several ship divisions may advance to department head. Department heads:

- Manage a major department such as engineering, navigation/operations, or combat systems
- Train new officers in seamanship and leadership
- Plan and coordinate the department's activities
- Conduct drills to evaluate the department's performance in emergency or combat situations
- Evaluate the performance of division officers

DIVISION OFFICER

After initial training, new ship and submarine officers are assigned to their first vessel as a division officer. Here they:

- Lead a division of 10 to 50 sailors
- Stand watches in the engine room, ship's bridge, or ship's weapons systems control center
- Plan daily and long-term work schedules
- Plan and monitor the training of sailors in their division
- Evaluate performance of enlisted personnel

SUPPLY AND WAREHOUSING MANAGERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Profile: Benjamin Travis

Ben Travis wanted to serve in the military. He also wanted a college education and a chance to play college basketball. So he applied for and was selected to attend the U.S. Coast Guard Academy, where he lettered in basketball 3 years.

Like many Coast Guard officers, Ben served two tours of general duty before he specialized. He requested for his first assignment a tour as gunnery (or weapons) officer on a Coast Guard cutter going to Vietnam. His ship gave gunfire support to U.S. soldiers and Marines on land.

Back in the "States," Ben married his girlfriend, whom he had met while he was a cadet at the Academy. They enjoyed living in Miami Beach, the site of his next tour. Here, Ben commanded a 95-foot patrol boat and a crew of 15 men. He and his crew rescued stranded boats and enforced customs and maritime law in the Miami area.

Ben's next assignment was to graduate school, where he earned an M.B.A. in one intense year of study. Always interested in finance, he specialized in supply and warehousing management. (The Coast Guard calls supply officers "comptrollers.")

As a lieutenant, his first comptroller assignment was with the 7th Coast Guard District in Miami, developing and managing a budget of $35-$45 million. Ben says, "I really enjoyed the independence and responsibility of that job."

As he advanced, he served in positions of more authority. As a lieutenant commander in Washington, D.C., he briefed congressmen, senators, and other government officials on Coast Guard budget and procurement plans. He also enjoyed several general duty tours outside his occupational specialty. He especially enjoyed a tour as executive officer of a large Coast Guard cutter.

Now in Washington, D.C., with the rank of commander, Ben develops comptroller policies for the Coast Guard and oversees procurement of every item the Coast Guard buys, anywhere in the world. Reflecting on his career he says, "So far, I honestly haven't had an assignment that I didn't enjoy. The variety, the challenges, and the responsibility have been tremendously rewarding."

No military force can function without supplies. Supply and warehousing managers make sure our military units around the world have the food, weapons, uniforms, trucks, airplanes, fuel, and spare parts they need to fulfill their missions. As a supply and warehousing manager, you will buy, store, issue, and keep track of vast quantities of equipment and material. You begin your career leading a small group of enlisted specialists in one type of supply such as food, petroleum, or parts. As you gain experience, you will serve in positions of increasing responsibility. There are opportunities to become the supply and warehousing director of a large military base or major command area.

DUTY ASSIGNMENT

Most supply and warehousing managers work in offices, warehouses, and material handling facilities at military bases in the U.S. and overseas. They work in facilities similar to wholesale, retail, and warehouse operations in the civilian world. Some supply and warehousing managers are assigned to ships or air units. Many serve temporary duty assignments in the field during combat exercises and maneuvers. There are significant opportunities for overseas assignments, particularly in Europe and the Pacific Islands.

RELATED MILITARY OCCUPATIONS

If you are interested in a career as a supply and warehousing manager, you may also want to consider a career in purchasing and contract management, transportation management, or a related field. See the Executive, Administrative, and Managerial Occupations cluster in the *Military Career Guide* for descriptions of these occupations. The career of transportation manager is also described in the next military officer career description.

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TRAINING

Initial training for supply and warehousing managers includes 3 to 6 months of intensive classroom instruction Officers are trained to use and manage their services' supply system Budget management, ordering, storage, distribution, and leadership are some of the subjects they study Depending on their assignment, supply and warehousing managers may also be trained in petroleum management, food management, or aerial cargo delivery

Advanced training prepares supply and warehousing managers for more responsible positions Officers may be trained to operate computerized inventory and planning systems, to manage large warehouses and storage depots, or to prepare and manage major contracts with companies supplying the armed forces

Almost all supply and warehousing managers earn advanced degrees Some attend schools in programs funded by their service, others obtain degrees on their own after duty time Degrees in computer sciences, industrial management, and business administration are particularly helpful

Supply and warehousing managers are also given opportunities for professional military education to prepare them for senior officer positions These programs include study in military subjects such as strategy, tactics, and planning large-scale operations They may be completed either by correspondence or full-time study

TYPICAL CAREER PATH

Timeline

SUPPLY AND WAREHOUSING DIRECTOR

Supply staff officers with outstanding records may advance to direct major supply and warehousing activities. At this level, they:

- Command a supply facility or direct the supply operations at a military base
- Advise senior service commanders on logistics and supply management
- Evaluate bids and proposals submitted by suppliers
- Conduct inspections of supply units

15-18 yrs

SUPPLY STAFF OFFICER

Senior supply officers who have demonstrated leadership in a series of assignments may advance to supply staff officer. At this level, they:

- Assist the supply and warehousing director in administrative and management duties
- Help headquarters staff officers plan supply requirements for operational missions
- Analyze purchasing and distribution patterns
- Direct and evaluate studies to improve supply methods

9-11 yrs

SENIOR SUPPLY OFFICER

Supply officers who do well in a variety of supply assignments advance to more demanding supply management duties. At this level, they:

- Manage a supply or warehouse operation, directing other officers and enlisted personnel
- Train new supply officers
- Advise commanding officers of supply requirements
- Inspect their supply facilities

4 yrs

SUPPLY OFFICER

After initial training, new supply officers are assigned to a supply unit, where they gain experience in supply and warehouse operations. At this level, they:

- Direct civilian or military personnel in ordering, receiving, and issuing equipment and supplies
- Direct task assignments and prepare duty assignment and management reports
- Inspect storage facilities, giving instructions on material handling and safety
- Evaluate the performance of personnel working under their leadership

TRANSPORTATION MANAGERS

ARMY
NAVY
AIR FORCE
MARINE CORPS
COAST GUARD

Transportation managers run the trucking, air, rail, and sea transportation system that moves military equipment, supplies, and personnel all over the world. As a transportation manager, you will direct a part of that system. You begin your career leading a team of trained enlisted specialists. You may direct heavy trucking, landing craft, or air terminal operations. As you gain experience, you will serve in positions of greater responsibility, directing larger operations. There are opportunities to become director of transportation for a group of military bases or a major command area.

DUTY ASSIGNMENT

Transportation managers work in a variety of locations at military bases in the U.S. and overseas. Their "office" may be the deck of a large landing craft or the flight line of an air cargo terminal. They may also work in an office at a port or a truck motor pool. Many transportation managers support troops in the field during combat exercises and maneuvers. Some managers work in Washington, D.C., where most of the military's logistics planning takes place. There are good opportunities for overseas assignments, particularly in Europe and the Pacific Islands.

RELATED MILITARY OCCUPATIONS

If you are interested in a career in transportation management, you may also want to consider a career in transportation maintenance or supply and warehousing management. See the Executive, Administrative, and Managerial Occupations cluster in the *Military Career Guide* for descriptions of these occupations. The career in supply and warehousing management is also described in the previous military officer career description.

Profile: Dennis Kronchek

Dennis Kronchek went to work on an automobile assembly line right after high school. Knowing he would probably be drafted, he chose the Army and enlisted. Dennis did so well in aircraft maintenance training, he was encouraged to apply for Officer Candidate School, where he earned his commission. He chose the transportation corps because he wanted to stay close to aircraft and maintenance.

Dennis spent his first tour in Vietnam leading a platoon in aircraft maintenance. After that tour he held several more responsible positions in the United States.

At the end of his obligated service, Dennis went back to civilian life and attended school full time on the GI Bill. After 2 years, the Army offered him the chance to return to active duty. He and his wife thought it over. Remembering the variety and challenge of Army life, they decided to return.

Dennis spent a year in Vietnam, then a long tour in Okinawa, where his family joined him. He then returned to the "States," where he completed his bachelor's degree with full funding from the Army and the GI Bill, and his master's degree in transportation management, with partial funding from the Army.

Dennis also earned a secondary specialty in the supply field and began a series of assignments leading units of increasing size. In one of these jobs he directed the transportation of all personnel and supplies for an armored division.

A high point in his career was a 2 year tour as Army port and air terminal expert with the Navy. Dennis arranged the transportation to move people and supplies to and from the U.S. scientific research stations in Antarctica. He says, "I worked with private and government transportation agencies and officials from the United States, Australia, and New Zealand."

Dennis has spent the past several years at the Pentagon in Washington, D.C., as chief logistician for the Pacific. He is the expert on all Army transportation and supply activity in the Pacific.

Just selected for his next assignment, Lieutenant Colonel Dennis Kronchek will assume command of one of the 6 Army transportation movement control centers in the world. "It's going to be fun," he says. "It's a new challenge, in a new area for me. My command will control movement of Army personnel, equipment, and supplies through the transportation network to destinations around the world."

ADVANCEMENT

Transportation managers must be excellent leaders, planners, organizers, and problem solvers. They must understand military and civilian air, land, and water transportation systems. Good judgment and careful coordination are needed to avoid costly and time-consuming "bottlenecks" in the system.

To advance, transportation managers must have an outstanding performance record in positions of increasing responsibility. They must get people and cargo to the right destination at the right time. As they master the transportation system, they are assigned positions directing larger and more diverse transportation units. Many transportation managers obtain advanced degrees. An advanced degree, when combined with excellent performance, increases the chances for promotion.

Transportation managers compete with their peers for promotion and career-enhancing assignments. Only the best qualified are selected and competition intensifies with each increase in rank.

In the Navy and Coast Guard there are duty assignments involving transportation management. However, there is no true career path for transportation managers.

SPECIALIZATION

Some transportation managers specialize in a particular mode or type of transportation operation. Specialties include ground and rail transportation, air, marine, and sea terminal operations, and traffic management.

TRAINING

Initial training for transportation managers includes up to 5 months of both classroom and field instruction. Training covers transportation policy, maintenance and operation of vehicles and equipment, planning, and leadership. This instruction prepares officers for their first assignment.

Transportation officers have opportunities for advanced training to prepare them for future assignments. Courses may include budgeting, combined transportation specialty operations, or management development. Many transportation managers also receive specialty training in areas such as marine terminal operations, air transportation management, or truck transportation.

Most transportation managers earn a master's degree. Some attend school in a program funded by their service; others obtain degrees on their own after duty time. Degrees in transportation management, computer sciences, logistics management, and systems analysis are particularly helpful.

Transportation managers are also given opportunities for professional military education to prepare them for senior officer positions. These programs include study of military subjects such as strategy, tactics, and planning large-scale operations. They may be completed either by correspondence or full-time study.

TYPICAL CAREER PATH

Timeline

TRANSPORTATION DIRECTOR

Outstanding transportation staff officers may advance to transportation director. At this level, they may:

- Command a truck or boat transportation battalion
- Direct an air transport terminal at a major air base
- Advise major base and senior area commanders on transportation matters
- Direct inspection programs for transportation activities they command

15-18 yrs

TRANSPORTATION STAFF OFFICER

Senior transportation officers with leadership experience and excellent records of performance may advance to transportation staff officer. Here they may:

- Coordinate with other military services to transport supplies from air, sea, or land bases to troops in the field
- Develop long-range plans for use of transportation equipment and personnel
- Evaluate new transportation procedures and equipment
- Advise combat commanders on transportation matters
- Teach transportation courses

9-11 yrs

SENIOR TRANSPORTATION OFFICER

Transportation officers who perform well and who are good leaders may advance to senior transportation officer. At this level, they:

- Inspect transportation, maintenance, or operations facilities
- Command companies of trucks, landing craft, or tug-boats
- Plan missions and operations to support base and field operations
- Evaluate the performance of transportation officers and senior enlisted personnel

4 yrs

TRANSPORTATION OFFICER

After initial training, transportation officers are assigned to truck, air, boat, port (harbor), or terminal units. Typically, they:

- Direct enlisted personnel in operating and maintaining transportation equipment
- Schedule equipment use
- Train personnel in transportation procedures
- Prepare reports showing the use and costs of operations

Career Mapping

As you progress in your career, you will probably move to new jobs or positions. For civilians, this often means changing employers. For those in the military, this involves a change in duty assignments, or jobs, every few years.

It is often assumed that change must mean advancement—taking on more difficult work assignments or added responsibilities, such as supervising others. In addition to moving upward in organizations, some people also make lateral and downward moves at some time in their lives. Not all people are motivated by change to a higher status position or one offering more responsibility and money. For some people, it is more important to learn additional skills or to work in an area that is personally satisfying.

One way to analyze a person's work experiences is to create a "career map." On the following pages are the career maps of four individuals. Figures A and B illustrate the job changes of two individuals who began their careers as apprentice carpenters. Gary Caruso is a civilian. Frank Dalton has been with the Air Force since he enlisted in 1966. Frank's profile appears on page 38. Roberta Mathews and Phil Thompson, whose career maps are shown in Figures C and D, are engineers. Roberta is a civilian, while Phil has spent his entire work life in the Navy. Phil's profile is on page 94.

To understand the career maps, begin on the left side of the page. The individual's first jobs, employer or location, and the time spent there are shown in the first column. Each new job or position is indicated by a different box. If the person changed employers or locations, a new column has been created. If the change was an upward, downward, or lateral move, this is reflected by showing it at a higher, lower, or similar place either within or across columns.

As you review these four maps, look for the following:

- Types of changes made—note that all made lateral and upward moves. Figure A shows that Gary Caruso also made a downward move when he left Eckman Construction, Inc. and joined KLM Land Developers.
- Number of changes made—because people in the military change duty assignments every few years, the career maps of Frank Dalton and Phil Thompson have more columns than their civilian counterparts. This continuing opportunity for change in work type and location is what attracts many people to the military. Roberta Mathews had fewer employers, but she made changes within the organizations she worked.
- Future changes—these maps only reflect the past and present. It is also useful to create career maps that include the future. Imagine next steps for each of the four individuals. At some point Frank and Phil will leave the military. What options do you think they will have when they return to civilian life?

You can use the "Typical Career Path" and "Profile" sections to create career maps for any of the career descriptions in this book. You can also develop career maps by interviewing people whose careers interest you. Finally, you may want to create your own career map. It is another resource to help you as you plan for your future.

Figure A
Career Map for Gary Caruso

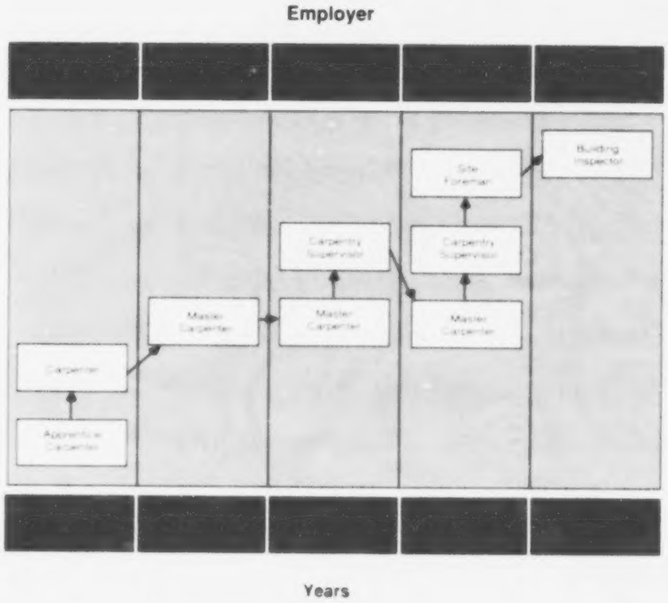

Employer
Apprentice Carpenter
Carpenter
Master Carpenter
Master Carpenter
Carpentry Supervisor
Master Carpenter
Carpentry Supervisor
Site Foreman
Building Inspector
Years

Figure B
Career Map for First Sergeant Frank Dalton

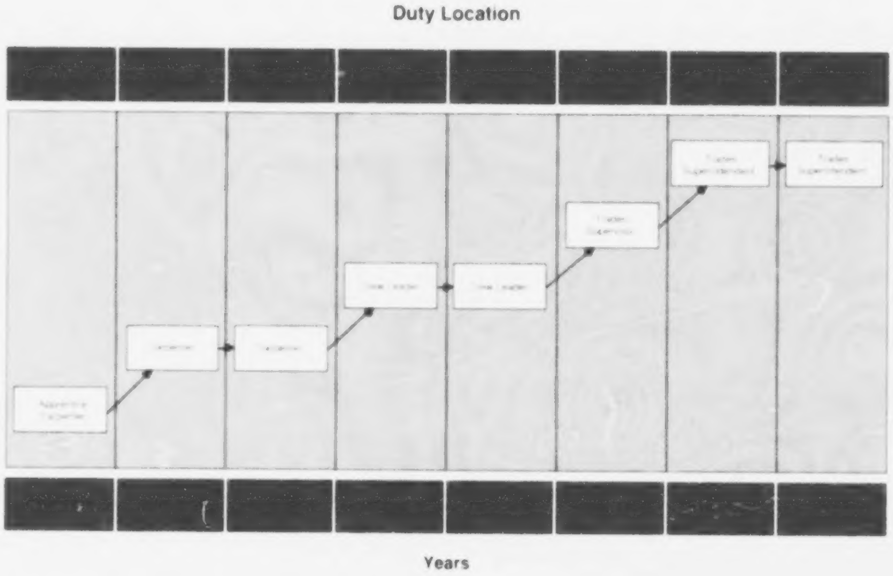

Duty Location
Apprentice Carpenter
Carpenter
Carpenter
Crew Leader
Crew Leader
Trades Supervisor
Trades Superintendent
Trades Superintendent
Years

Figure C
Career Map for Roberta Matthews

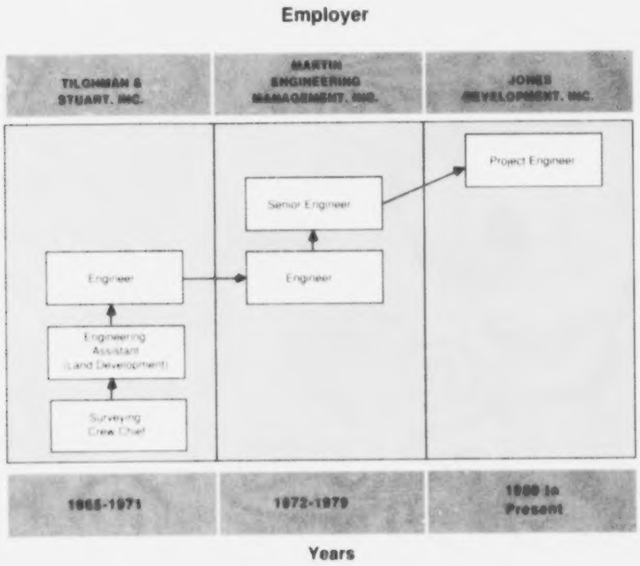
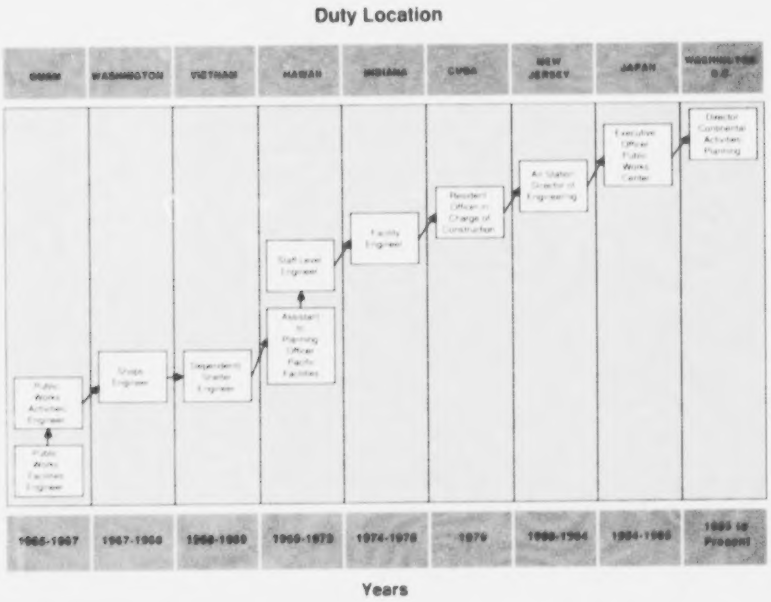

Employer
TILGHMAN & STUART, INC.
MARTIN ENGINEERING MANAGEMENT, INC.
JONES DEVELOPMENT, INC.
Project Engineer
Senior Engineer
Engineer
Engineer
Engineering Assistant (Land Development)
Surveying Crew Chief
1965-1971
1972-1979
1980 to Present
Years

Figure D
Career Map for Commander Phil Thompson


Duty Location
GUAM
WASHINGTON
VIETNAM
HAWAII
INDIANA
CUBA
NEW JERSEY
JAPAN
WASHINGTON D.C.
Director Continental Activities Planning
Executive Officer Public Works Center
Air Station Director of Engineering
Resident Officer in Charge of Construction
Facility Engineer
Staff Level Engineer
Assistant to Planning Officer Pacific Facilities
Shops Engineer
Dependents' Shelter Engineer
Public Works Activities Engineer
Public Works Facilities Engineer
1965-1967
1967-1968
1968-1969
1969-1973
1974-1978
1979
1980-1984
1984-1985
1985 to Present
Years

Glossary of Military Terms

Glossary of Military Terms

Active Duty	Continuous duty on a daily basis. Comparable to "full-time" as used in reference to a civilian job.
Allowances	Money, other than basic pay, to compensate in certain specified situations for expenses such as meals, rent, clothing, and travel. Also, compensation is given for maintaining proficiency in specific skill areas such as flying or parachuting.
Artillery	Large cannons or missile launchers used in combat.
ASVAB	Armed Services Vocational Aptitude Battery, a test that provides students with academic and vocational aptitude scores to assist them in career exploration and decision making. ASVAB scores are used by the military services to determine enlistment eligibility and to assign occupational specialties.
Base	A locality or installation which a military force relies on for supplies or from which it initiates operations.
Civilian	Anyone not on active duty in the military.
Commissary	A store on a military base that sells groceries and other items at a substantial discount to military personnel.
Commissioned Officer	A member of the military holding the rank of second lieutenant or ensign or above. Their role in the military is similar to that of a manager or executive.
Drill	To train or exercise in military operations.
Duty	Assigned task or occupation.
Enlisted Member	Military personnel below the rank of warrant or commissioned officers. Their role is similar to that of company employees or supervisors.
Inactive Reserve Duty	Affiliation with the military in a non-training, non-pay status after completing minimum obligation of active duty service.
Infantry	Soldiers trained, armed, and equipped to fight on foot.
Obligation	The period of time one agrees to serve on active duty, in the reserve, or a combination of both.
OCS and OTS	Officer Candidate School and Officer Training School. Programs for college graduates with no prior military training who wish to become military officers. Also, qualified enlisted members who wish to become officers may attend OCS or OTS. After successful completion, candidates are commissioned as military officers.
Officer	See commissioned officer.
Quarters	Living accommodations or housing.
Recruit Enlistee	Someone who has been accepted by the military and has taken the Oath of Enlistment.
ROTC	Reserve Officers Training Corps. Training given to undergraduate college students who plan to become military officers. Often they receive scholarships for tuition, books, fees, uniforms, and a monthly allowance.
Station	A place of assigned duty.
Tour of Duty	A period of obligated service. Also used to describe a type of duty tour, such as a "Mediterranean tour."

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